



Desi. by Boucher.

J. Mynde sculp.

The Vine
planted in Gaul.

Speſtacle de la Nature :
A. Roddam O R,
NATURE DISPLAY'D.

BEING
DISCOURSES
On ſuch PARTICULARS of
NATURAL HISTORY

As were thought moſt proper
To EXCITE the CURIOSITY,
AND
FORM the Minds of YOUTH,

Illustrated with COPPER-PLATES.

VOL. II.

Translated from the Original FRENCH,
By Mr. HUMPHREYS.

The SIXTH EDITION.

L O N D O N :

Printed for R. FRANCKLIN, in *Covent-Garden*;
C. DAVIS, over-againſt *Gray's-Inn-Gate* in *Holborn*;
and J. and H. PEMBERTON, in *Fleet-ſtreet*.

MDCCLXIII.

Speckels de la Nature:

O R.

NATURE DISPERSED



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NATURE DISPERSED

To preserve the CURIOUS

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T O

Dr. *P E L L E T*,

P R E S I D E N T

O F T H E

College of Physicians.

S I R,



S the Indisposition, which oppress'd me, when I first engaged in this Translation, was happily extinguish'd by your salutary Aid; I think myself obliged, in Gratitude, to present you with

iv DEDICATION.

some of the First-Fruits of that Health, to which you restored me, when my Friends were apprehensive that my declining State would soon cause me to be number'd among the Dead.

How engaging a Benefactor to Society, are you daily render'd, by such Obligations as you have lately conferred on me! and how ornamental is Learning, when it is thus devoted to the Welfare of Mankind!

To whom can the *Display of Nature* be more properly inscribed, than to a Gentleman, who is so eminently distinguish'd for his profound Knowledge of her Operations, and his sedulous Attention to her finest Systems; and who has long been indefatigable in collecting, from her Treasures, so many beneficial Reliefs for the Children of Men?



As

DEDICATION.

V

As I have, therefore, taken the Liberty, Sir, to grace my Translation of this Volume with your amiable Name; I may venture to hope it will obtain a candid Reception from the Publick, should you happen to think it no unpleasing Entertainment in your vacant Hours.

Your Approbation of the Original presented me with a strong Inducement to employ my best Endeavours to render my Version agreeable to an *English* Reader; and, indeed, the excellent *French* Author has diffused so much Beauty and Instruction through his Performance, as justly entitled it to my strictest Attention.

But I ought to consider the Importance of your Moments to the Publick; and shall, therefore, close this Address to you with expressing my fervent Wish, that you may long continue a living Ornament to the Republick of Letters; and that those, who are indebted to you for the in-

estimable Blessings of reviving Health, and
Serenity of Mind, may proclaim their Ob-
ligations to you, with the same grateful
Pleasure that glows in the Heart of,

S I R,

Your most Obliged,

and most Obedient,

humble Servant,

SAMUEL HUMPHREYS.

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AN EXPLANATION OF THE FRONTISPIECE.

A *Solomon*, in the Frontispiece of the first Volume, whose Subject is Natural History, was the most proper Example that could be introduced to authorise that Study; so no Representation can be better adapted to this second Volume, which comprehends all the Branches of Agriculture, than the Emperor *Probus*; to whose Care we owe the *Burgundy*, and *Champaign*, the *Spanish*, and *Tokay* Wines. He is therefore exhibited from the Authority of *Vopiscus*, as amusing himself, after his Victories, in causing his Soldiers to plant the Vine, whose Fruit we still enjoy. And, in order to enliven the Design, we suppose that the People had immortalized their Gratitude, by erecting to the Honour of that Prince, a Column wound about with Vines, and crown'd with a large Shell fill'd with Grapes, with the following Inscription; in which they celebrate him in the manner *Horace* had celebrated *Bacchus*, for dispensing Felicity in Conjunction with the Vine.

PROBO. IMPERATORI.
PATRI. PATRIAE.
LAETITIAE. DATORI.

Explanation of Plate 2 I. VOL. II. Page 24 I.

- A. B. The Base of the Pedestal, and other Supporters.
C. The Cheeks, or Side Beams. These are the upright Beams, whose lower extremities are sunk in the Earth, where they are strongly riveted by cross Beams charged with Masonry. These upright Beams are traversed towards the Top by two strong Beams, the lowermost of which is the Nut, or the Receptacle of the Screw.

D. The

- D. The Screw with its Wheel.
- E. The Bearer, or large Piece of Timber, on which the Wheels rest, in order to sink the Beams crossing the Planks that cover the Grapes, F.
- G. The Maye, or Planks, on which the Pile of Grapes F. are disposed in order to be squeezed. These Planks are cut in Notches, to receive the Liquor, and to convey it in a Slope to the Vessel appropriated to receive it. The Maye is supported by a massive Work of Masonry, that it may resist the Effort of the Pressure; and this Masonry is detach'd from every other Work, in such a manner, that a Person may walk round it in order to visit the Foundations, and the Extremities of the upright Beams, as there may be Occasion; and to open a free Access of Air upon all the Wood-work.
- H. The Wheel, which serves for forcing down the Screw and the Bearer upon the Grapes. When the Press is to be work'd, the Grapes are laid upon the Maye in a square Heap, over which three Poles are extended; one in the Middle, and one at each Extremity, in order to form a Basis for the Planks that are to be laid upon it side by side. Upon these Planks, three, four, or five Beams are afterwards extended, proportionably to the Dimensions of the Press. On this first Range of Beams, is placed a second; and on that a third; after which, a Turning-Wheel winds off the Cord from the other Wheel, by which means the Screw and the Bearer are press'd down upon the Beams.
- I. A leathern Pipe, for the Transfusion of the Wine from one Piece to another. It terminates in two wooden Tubes, one of which is applied to the bottom of the Vessel, which is to be fill'd, and the other to the large Vessel which is to be emptied.
- K. A large Bellows; to agitate the Wine when it has settled into an even Surface in the two Pieces.
- L. The same Bellows in Profile.
- M. A large Fountain, which affords a quick Flow.
- N. A Bung or Stopple, to close the Top of the Vessel newly fill'd; that the external Air may prevent the Efflux of the Wine upon the withdrawing of the wooden Tube.

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he and others have publish'd in other Books, are here consider'd.

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AS we were desirous to exercise the Minds of young Persons with amusing Subjects, and to engage their Attention to the Wonders of *Providence*, by the Mediation of pleasing Ideas; we endeavoured, in the first Volume of this Work, to present to their View, the Generality of these Animals, with which *that Providence* has replenished the various Parts of Nature, for the Benefit of Mankind. We then proceeded to some Observations on Plants, which open to us another Source of Advantage and Delight: But we limited our Enquiries to the general Structure, and only offered a slight Sketch of those Classes which are most esteemed; as not thinking it proper, at that Time, to be more extensive on so vast a Subject. Leaving, therefore, to the Learned, the Care of propagating their Science, by an exact Arrangement of its several Branches, and by such Disquisitions as comprehend the whole System of Nature; we imagined it would be more advantageous to our young Readers, whose Improvement was our principal View, not to perplex them with abstruse Enquiries, but to select, from the best Books of Natural History, such Particulars as were proper to excite their Curiosity.

In Conjunction with this Method, which is always successful, we intend to have Recourse to another, in this second Part; which is to engage our youthful Readers, by

the Impressions of Gratitude. This Expedient will touch them, as effectually as the first; and it has this additional Advantage, that as it equally contributes to the Improvement of Reason, so it tends more directly to form the Heart, and cause the first Sentiments of Virtue to spring up in the Soul.

All our Readers are naturally desirous of Affluence and Distinction, Power and Happiness. This Work will unfold to their View a Profusion of Riches and Liberalities, which cover the Surface of the Earth, and are diffused through its Bowels for their Service; and it will make them sensible of the noble Sovereignty they exercise over those Blessings, in Conjunction with the rest of Mankind. But before we present them with a Survey of all these Benefits, it will be necessary to destroy a false Idea we generally entertain of our present State, while we are insensible of the Dignity and Advantages which attend it.

We are apt to be extremely jealous and proud of that scanty Portion of Riches, in which we are capable of securing the sole Property; and, at the same time, form low and feint Conceptions of those we enjoy, in Participation with the rest of Mankind. We imagine we possess nothing, but what we have acquired in this little Corner of the World, to which we are attached; and consider all the Remainder of the Universe as lost to us, because we only share it with the rest of human Race. But it is not any one Tract of Earth that constitutes our Domain; the whole Extent of Nature may be considered as our Property. We receive but few of our necessary Accommodations from the particular Spot of our Inheritance; since all the Earth is obedient to furnish us with our Supplies. We may, consequently, be reputed the Monarchs of this Earth; and Society, instead of divesting us of our Sovereign Power, is the very Circumstance which secures us that Enjoyment.

In order to be convinced of this Truth, let us retire, a while, to some unfrequented Solitude, and discontinue all Commerce with Mankind: Let us there endeavour to possess our Patrimony by ourselves, and exercise our Sway without any Competitor. When we are reduced to the Labours of our own Hands, and can no longer have Recourse to the Advice and Assistance of others; in a word, when we cease to be supplied with Carriages and Imple-

ments,



the SECOND PART.

3

ments, we shall soon be destitute of all we need. The Earth will immediately shoot up Thorns and Brambles around us, and offer its Profusion of Fruits and Flowers to other Hands. Roses will be shed from Heaven, and Harvest wave over the Glebe for others: For these will the Rivers roll their Streams, and the Winds dispense their Gales: The Climes will vary their Productions, and all Nature be animated, for their Accommodation. When we once seclude ourselves from Society, we lose the Communication of all these Succours, and can never regain them, till we resume our Intercourse with Mankind.

For whom are Ports, and Maris, and publick Places opened? For whose Benefit are long and spacious Roads struck out? And in whose Favour are the opposite Banks of Rivers united by Bridges? Whose Conveniency is consulted when Barks and Carriages are in Motion, at regular Hours? For whose Use do large Vessels divide the Waves, and for what People is the Produce of each Climate transmitted to all Parts? It is manifest, that we are all interested in these Particulars. The whole Earth is at our Service, and Community is so far from depriving us of our Property in these Enjoyments, that, on the contrary, it enables us to possess them, and secures us in the Exercise of our Prerogatives.

As an Inhabitant, therefore, of the Earth is likewise its Sovereign, it is but just, that he should be acquainted with the outward and inward Parts of his Residence: He ought to take a Progress through his Empire, and acquire a competent Knowledge of every Object which is subordinate to his Power and Authority.

In order to take a View of all our Treasure, without Fatigue or Confusion, we shall pursue the easy and agreeable Order in which they are ranged by Nature, and make our Visits, in Succession, to those Places where they have been disposed. We will begin then with those Productions that the Earth affords us, in our own

Habitations; namely the Flowers and Verdure of our Gardens. Vol. II.

It may be thought surprising that we should open the Scene with Particulars that are generally considered as mere Amusements; but then, they are such Objects, as Nature first presents to our

View. Our Displays of her Works are not attended with any Arrangement of our own; all Things are already adjusted, and we are only to follow the established Order. When we have surveyed our Pastures and Groves, the next Prospects that occur will be our Kitchen and Fruit-Gardens. But to prevent our being embarrassed with the Variety of our own *Riches*, we shall only select those that are excellent and necessary. We shall not search for every Plant an Olitory may be capable of producing; but by a prudent Retrenchment of all such as are indifferent and superfluous, we shall cause it to diffuse its Gifts through all the Seasons, without any Intermision. When we have considered these, we shall visit our arable Lands, and, from thence, proceed to our Vineyards, with an Intention to examine the Productions of those two important Soils. We shall likewise be attentive to the particular Industry, by which they are manured, since we are as much interested in this, as we are in the Produce of the Land.

The Survey of our Woods will present us with another Train of Benefits, and we shall find our Meadows pregnant with new Blessings. The Banks of Rivers will diversify our Riches, and we shall even trace them on the dry Summit of the Mountains. Nature affords more in one Place, and less in another; but she dispenses her Gifts in every Part, and the wild Heath, itself, is not exempted from her Liberality.

When we have entertained our View with the Number of salutary Plants, which cover the Earth;
Vol. III. we shall proceed to consider the Springs and Rivers that lave it with their Streams.

We shall be careful to pursue the Flow of those Waters, which are commissioned to glide by our Habitations; to impart Fertility to our Plains; to slack the Thirst of Animals; to give Vegetation and Growth to Plants; to accommodate our Tables with Fish of an excellent Juice, and connect the different Regions of the World, by mutual Transportations. We shall, afterwards, endeavour to disclose the Sources from whence they derive their Progress; and when we penetrate the Entrails of Mountains and Plains, we shall discover the amazing Structure of those Reservoirs whose Cavities are replenished with Waters, we shall observe the

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the Function of those Mountains which collect them, and the wise Formation of the Channels which distribute them through various Lands; and shall be sensible of the Use and Productions of that immense Basin into which they flow. We shall then attempt an Essay on the Operation of the Air, which perpetually raises them from their Level; and shall consider that active Force which impels them to such a Height, as enables them to water the Mountains themselves, and diffuses them, by a Distillation which is always new, in such Quantities as supply the Beds of Rivers, and perpetuate the Verdure of the Earth.

When we have examined those Objects which are most useful on the Surface of the Globe, we shall visit its Regions within. There, as in a vast Magazine, we shall find, reserved for our Use, a Variety of oily Juices, and treasured Salts, which are fertile in a thousand Effects; together with innumerable Veins of Earth, whose Uses are multiplied, in proportion to their Qualities. We will then descend into Quarries and Mines, where we shall still continue to observe the Conformity established by the great Creator, between his Gifts and our Necessities. We shall first consider Stones and Metals, in their natural Form, after which we intend to enumerate the chief Advantages we are able to derive from them.

These are the Treasures we enjoy: But our View of their Variety would be entirely frivolous, were mere Curiosity, or Ostentation our only Motives. That View ought to be ennobled by a very different Purpose. All these Riches are not imparted to us without a Design; and the least we can do, when we receive them, is to acknowledge the Intention of our Benefactor.

Though Language be the chief Medium, by which Mankind converse with each other, yet their Thoughts are capable of Communication, by a Number of other Signs; and no Language is more intelligible, than that which flows from Presents. When delicious Wines or shining Silks are transmitted to us by an absent Friend, we are sensible of his Meaning without the Aid of a Letter, or Messenger; and the more amiable his Present appears, the greater is our Satisfaction, at the honourable Rank he allows us in his Heart. We likewise have each of us a Friend, who is equally propitious and powerful, and that Friend is the Author of Nature.

Nature. He seems, indeed, to be absent from us, but we are the constant Objects of his Care, since he sheds his Gifts around us, without Intermission. He is, every Moment, conversing with us by Liberalities that are never to be exhausted. They are diffused over the Face of the Earth, for our sakes : for if we were not the Inhabitants, all these Riches would be without Possessors, and without Admirers. He likewise maintains with us a constant Intercourse of active and tender Friendship ; and as this Language is equally clear and affecting, we might justly be taxed with Stupidity, were we not to understand and answer it. The Letter which concludes the third Volume of this Work *, and is intituled *Useful Reflections on the whole* : represents the End and Intention of all those Presents which the Deity offers to Man. We have there explained the secret Engagements that are contracted by those who receive them ; and, if I may use the Expression, we have exhibited the first Elements of the Language, in which God converses with us, and in which we ought to answer Him.

Our Readers, therefore, must not here expect those Sentiments, that they may be called the Eloquence of Piety, and the Effusions of Gratitude. We are more solicitous to make young Persons sensible of the Benefits they have received, than to teach them how to render their Acknowledgments. We shall gain a considerable Point, if we are able to convince them of those tender Regards the Deity has discovered for their Welfare ; and if we can be so happy, as to affect them with the first Motives to a just Return, they will learn the rest from the Heart, which is always the most noble and instrumentive Master.

The Necessity
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Our main Intention was to render the Knowledge of the Voice and Will of God, in all the Objects which are daily presented to our View, habitual to Youth ; after which we had nothing more at heart, than to make them acquainted with those Particulars, that are most obvious and familiar in human Life. It is a Hap-

* This Letter will sufficiently acquit us of our Promise, to those who purchased the first Edition of the first Volume, to clear up some Passages which needed such an Explication. The Plate inserted at Page 382 of the third Volume contains those Particulars, that will give a satisfactory Idea of the Process of Vegetation.

pinels to be conversant with such Masters as can instruct us in those Subjects that are sublime as well as intricate and uncommon. But we daily complain of our Unacquaintance with those that are most useful, and even the Learned may, possibly, have the greatest Reason to reproach themselves in this Particular.

'Tis certainly prudent to prevent young Persons from being confus'd in their Studies, by too great a Variety of Objects. When their Education in the Schools is compleated, they resign themselves entirely, either to some Science of their own Choice, or to the Duties of the state of Life they embrace; and too frequently to their Pleasures. And thus they advance through the several Stages of Life, without knowing the generality of those Things which contribute to its Support. These Things are likewise dispersed, and they seldom search for them, where they are likely to be found; or observe them, when they occur to their View. Such a Person for instance, who knows the Elms that grow in his own Avenues, or remembers to have seen the Maple and the Oak in his Woods, will have no Idea, either of the Pine, or the Chestnut-Tree. Another, who has frequently observed the common Trefoil in his Meadows, may possibly be a Stranger to the Saint-Foin, or the Snail-Trefoil. A third has viewed the outside of a Ship, but is ignorant of the Arrangement of its interior Parts. This Man, who has seen the Vessels of *Havre-de-Grace*, or *Dieppe*, has no Conception how the Gallies of the *Mediterranean* are built. It may therefore be very useful to Readers, to have the greatest part of those Things that are common, and the Subject of daily Discourse, presented to them in a portable Volume, and render'd visible by the Aid of the Engraver.

'Tis with this Intention that we have caused Plates to be engraved from several Designs, the greatest part of which were taken from Nature; by which Means, we have represented the most amiable Flowers that are cultivated by the Curious, in preference to others; together with the various Dispositions of our Parterres and Groves, and the most irregular Plots of Ground. We have likewise exhibited the different Foliage of Ever-Greens, and other Trees which compose our Palisades, and Alleys; and have also delineated the Leaves of those Trees that are used

by Joiners, Carpenters, and some other Workmen; as well as those that accommodate us with Fuel; all which we cut down in our Forests. To these we have added Draughts of those Presses which furnish us with the Juices of Grapes, Apples, and Olives; and have not omitted the most useful Herbs in our Meadows. These Objects, that are all so common, and yet but little known, are succeeded by those which relate to Rivers, the Ocean, and the interior Parts of the Earth. We first represent the different Strata, which are extended over one another, in the Heart of Mountains, and under the Surface of Plains; together with the Course this Disposition gives to the Subterranean Waters, as well as to those that flow on the Surfaces of the Earth. We then introduce the Fishes that live in fresh Streams, and those that retire, from the Sea, into Rivers: The principal Fisheries have, likewise, their Place in this Collection. When we have assembled the greatest Curiosities of the Sea, such as Fishes that differ from the common Form, the finest Species of Shells; the principal Plants that grow in the mighty Waters, and the Fishery of Coral; we proceed to the Advantages of Navigation, but fancied we should be defective in one Particular, which is but little known, though very familiar in Conversation, if we had neglected to exhibit the exterior Form, and the inward Arrangement of a large Ship, as likewise a Galley, and the smallest Vessels; together with the manner in which they are launched.

Jewels, Stones, and Metals, being incapable of deriving any Aid from the Engraver; as any one may experience, by casting an Eye on the pompous and insignificant Plates, in the third Volume of the History of the *Danube*, by the Count *de Marfilli*; we omitted a Number of Singularities, that are to be found in the Entrails of the Earth, and only caused several petrified Bodies, and figured Stones to be engraven; because, as they imitate the Shapes of Animal, or Plants, they are easily known, and likewise create several curious Enquiries.

To render the Knowledge of these Particulars easy and agreeable, we were careful, as much as possible, to have Recourse to those Figures that correspond with the natural Dimensions of the Things they represented, and are always more proper to fix an Idea of the Object, than any writ-

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ten Descriptions that can be invented. Give a young Reader a Relation of Leaves that are cockled, fleshy, oblong, sinuous, or laciniated; these learned Terms will confound him, and change his Amusement into a laborious Study. But if you shew him the Leaf of a Plant, he immediately comprehends the Difference between a common Elm, and a Yoke Elm; a Linden Tree, and a Birch; and will consequently remember them without any Difficulty. He will say, as he passes through a Wood, or a Meadow, this Plant is called Saint-Foin, and that Tree is an Aspin; here grows an Oak, and there a Fir-Tree.

All these Families are distinguished, by their various Liversies, and those Persons who make them the Subject of their daily Disquisitions, think it sufficient to mark them out, by the Figure of their Leaves and Seeds. We may therefore be satisfied with this Method of Discovery; and, indeed, we were industrious to avoid an elaborate Assortment of each Plant, in that certain Class, or particular Genus or Species, into which Monsieur *Tournefort* has ranged them. Our Readers would have been shocked, at those Distributions of simple and compound Flowers; of sterile and fertile Simples; of compound Monopetales, and compound Polypetales; of Monopetales which are either regular, or opened in the Form of Bells, Tunnels, or Roses, &c. These Divisions and Subdivisions, with a Variety of others, may be necessary to form a Herbalist, or furnish a Dictionary for a Botanist; but as they would have been exceedingly misplaced in this Work, the Censures we may sustain by omitting them will be altogether as ill-disposed.

As most of the Articles of this second Volume, and Part of the third, relate to the practical Part, more than to mere Curiosity, I was unwilling to commit any Mistakes, that might be injurious to my Readers; for which Reason, I had Recourse to Monsieur *Le Normand*, Director of the Herb-Garden of *Versailles*, and to Monsieur *Bernard de Jussieu*, Lecturer of the Royal Gardens; and I received from the polite Civilities, and profound Knowledge of those Gentlemen, all the Assistance I needed on that Occasion. They were so obliging as to review all the Conversations on Plants, and enabled me to give them their proper Appellations. This Remark was ne-

cessary for two Reasons : My Readers will find their Account in it, and I have an Opportunity of testifying my sincere Gratitude with Pleasure.

A P P R O B A T I O N.

I Have read by the Order of the Lord Chancellor the second Part of Nature Display'd, and am persuaded, it will prove as agreeable to the Publick as the first.

Paris, 15 Decem-
ber, 1734.

Joseph Privat de Molieres.

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NATURE DISPLAY'D.
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SECOND PART.

FLOWERS.

DIALOGUE I.

The COUNTESS. *The* PRIOR. *The* CHEVALIER.

Cheval. I HAVE lost nothing, by deferring my Return to the Month of *May* instead of *December*. All the Landskip around me is extremely charming.

Countess. Thanks to the returning Spring, and the new Bloom of Flowers.

Cheval. Those that border the Parterre form a most delightful Prospect, but as yet I have only beheld them from the Balcony.

Countess. We may easily descend, and take a nearer View : But I must intreat the Prior to inform me, why the first Appearance of a Flower-Garden inspires each Beholder with a sudden Pleasure, and whence it can proceed, that without any distinct Thought we are, that Moment, sensible of a Satisfaction, we experience in no other Place ?

The Cause, in my Opinion, is to be derived from the rich Colours which strike our Sight, and it is not without Design, that Flowers have been arrayed with so much Splendor.

DIALOGUE I.

Prior. I would willingly know the Chevalier's Sentiments on this Subject.

Cheval. I freely confess it never enter'd into my Thoughts to seek for any Design in Flowers; but if I may judge of them, by the Delight they afford me, they were certainly created to please us.

Countess. That seems to be a flattering Thought: But is it nothing more? And must we really take it for an Illusion of Self-Love?

Prior. I am far from entertaining that Opinion: There is a manifest Connexion in all Nature; and tho' each Object has its particular End, in that System, or may happen to correspond with some other, we see that all of them have an ultimate Relation to Man. They are united in him, as their proper Center; he is the End of all, since he alone has a Use for the whole. For him the Sun rises each Morning, and for his Accommodation the Stars glitter in the Firmament: And if the most distant Bodies serve him with so much Regularity, he has the more Reason to conclude, that those which are placed so near him are all appointed for his Use.

Countess. It is evident that the Flowers, in particular, are formed to please him, and it is for his Sake that they have received their amiable Appearance. No Eyes, but his can enjoy their Beauties. The Animals never seem to be affected with Pleasure, when they behold them, nor do they ever stop, to consider them with Attention. They confound them, with the common Herbage of the Field; they trample on the most beautiful of the Tribe, and are perfectly insensible of this Ornament of the Earth. Whereas Man, amidst a Crowd of Objects and Riches that surround him, distinguishes and pursues the Flowers, with a peculiar Complaisance.

Prior. They have likewise an agreeable Correspondence with our Eyes, and a Set of powerful Attractions, that invite us to approach them. Whenever we gather them they present us with new Perfections in proportion to our regarding them with a nearer Attention. The greatest Part of them not only regale our View with the Beauty and Arrangement of their Colours, but gently delight our Smell with an exquisite Perfume; and when they have gratified our Senses with an innocent Satisfaction, the Mind still discloses Wonders in them, which ravish its Faculties.

If I thro' all receive it the Seed these are rests, and together with Flowers produce the Flowers been full Relation carefully cover on of the S Chives scatter palemer of Preca these Re tribute these Pa larity, formed, likewise by dispe perpetu Commi from Ye
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If I am inclinable to trace this Flower thro' all its Progress, from its Birth, I perceive it always appears in the Place where the Seeds are to be unfolded; and wherever that is wanting, these are not to be expected. The Trees that grow in Forests, and those that bear Fruits, the different Kinds of Pulse, together with the Herbage of the Field, are yearly cover'd with Flowers, more or less lively in their Glow, in order to produce a Fruit, or Seed, which is generally formed, unless the Flower itself was in no Condition to blow, or has not been sufficiently preserved. I am desirous to discover the Relation between a Flower and a Seed, and when I have carefully survey'd the Structure of the former, I always discover one or more Enclosures appointed for the Reception of the Seed. Around that Enclosure I observe a Set of Chives sustaining several Packets of Powder, which they scatter on all Parts. The whole is encompassed with an Empalement, or soft Robe, that unfolds and closes, with a kind of Precaution, according to the Disposition of the Air. All these Relations have a Language I understand, and they contribute to my Instruction; till, at last, I am convinced that these Parts, which are disposed with so much Art and Regularity, and wither round the Enclosure, when the Seed is formed, are instrumental in the Generation of that Seed. I likewise discover the original Design of Flowers. The Deity, by dispensing the Verdure of the Earth to Mankind, has perpetuated his Gifts, thro' all Ages, in consequence of the Commission he has given the Flowers, to renew each Plant from Year to Year, by infusing Fertility into the Seed.

The first End of Flowers.

Cheval. This is a Function truly noble; but if they are found to impregnate the Seed, can we continue to say they were created for our Pleasure?

Prior. This important and first Design, to procure Immortality to Plants, is not inconsistent with a second, which is to delight the View of Man. When God created the Flowers, he thought fit to blend Utility with Pleasure. If he had only appointed them, to furnish each Plant with a re-productive Seed, he would not have graced the Generality of them with such amiable Forms and engaging Colours; but they would have resembled Roots, which being only calculated to impart Nourishment to the Plant in a Situation of Obscurity,

The second Use of Flowers.

scurity, were not provided with any Embellishment. Where as the great Being, who form'd the Flowers, seems to have taken Pleasure to shape and paint the greatest Part of them in such a Manner, as qualifies them to regale the View of Man, and adorn his Habitation.

Countess. We have no occasion, at present, to expatiate on that surprising Structure of Flowers, which produces such useful Effects, since we have sufficiently enlarged upon it formerly: Let

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us therefore be more particular in considering the Pleasures they are commissioned to procure us.

In the first place, there are a Number of Flowers that seem only form'd to present Mankind with a Collection of Sweets; and while others are preparing for him a Fruit, which he will use after the Disappearance of the Flowers, these are far from being indifferent, tho' he is not conscious they have any other Merit than the Pleasure they afford him; but they present themselves to him, in their Turns, with such an engaging Air, as makes it evident they all pay their Court to him as their Lord.

Prior. It is difficult to conceive how far the Design to delight Man with the Beauty and Profusion of Flowers has been extended. Their Multitude is a real Prodigy, and one would imagine they had been commanded to spring beneath every Step we take. Each Part of Nature unfolds them to our View, in their Turns. They rear their Heads on the lofty Tops of Trees, and are diffused thro' the Herbage that creeps along the Earth: They embellish the Valleys, and the Mountains, and the Meadows are enamelled with their Colours: They are gather'd from the Skirts of Woods, and make their Appearance even in Deserts: The Earth is a Garden entirely covered with their Bloom; and lest Man should be deprived of this delicious Prospect, when he retires within the narrow Confines of his Habitation, they seem desirous to render this more amiable to him, by ranging themselves in his Parterre, and creating him more Pleasure than they afford him in any other Situation.

Countess. Would not one be apt to say, that, at least, the most lovely of all the Tribe are separated from the Commonalty of Flowers, in order to form a shining Embassy; and that they advance to render Homage to their Lord, and are deputed to hail him King of Nature?

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Prior. 'Tis an infallible Truth, that the Beauty of Flowers never fails to inspire us with Joy; and when we have sufficiently examined the fairest, we are sensible they are only proper to refresh the Sight; and indeed, the Prospect they afford is so touching, and we experience their Power to be so effectual, that the generality of those Arts which are ambitious to please, seem most successful when they borrow their Assistance. Sculpture imitates them in its softest Ornaments, Architecture bestows the Embellishments of Leaves and Festoons on those Columns and Fronts, which would otherwise be too naked. The richest Embroideries are little more than Foliage and Flowers; the most magnificent Silks are almost cover'd with these charming Forms, and are thought beautiful, in proportion as they resemble the lively Tinge of natural Flowers.

The Beauty of Flowers.

These have always been the Symbols, or Representations of Joy; they were formerly the inseparable Ornaments of Feasts, and are still introduced with Applause, toward the close of our Entertainments, when they are brought in with the Fruit, to enliven the Festival that begins to languish: And they are so peculiarly adapted to Scenes of Pleasure, that they are always considered as inconsistent with Mourning. Decency, inform'd by Nature, never admits them into those Places, where Tears and Affliction are predominant.

Countess. The Festivals in the Country are never celebrated without Garlands, and the Entertainments of the Polite are usher'd in by a Flower. If the Winter denies them that Gratification, they have recourse to Art. A young Bride, in all the Magnificence of her nuptial Array, would imagine she wanted a necessary Part of her Ornaments, if she did not improve them with a Sprig of Flowers. A Queen amidst the greatest Solemnities, tho' she is cover'd with the Jewels of the Crown, has an Inclination to this rural Ornament; she is not satisfied with mere Grandeur and Majesty, but is desirous of assuming an Air of Softness and Gaiety, by the Mediation of Flowers.

Prior. Religion itself, with all its Simplicity and Abstraction, and amidst the Abhorrence it professes to theatrical Pomp, which rather tends to dissipate the Heart, than to inspire it with a due Reverence for sacred Mysteries, and a Sensibility

Sensibility of human Wants, permits some of its Festivals to be celebrated with Boughs, and Chaplets of Flowers.

Chevalier. All Persons in general are touched with the Beauty of these Productions; and 'tis a Misfortune we should ever be deprived of their View.

Countess. It is certain, that what has been said of a different kind of Beauty, may be applied to each Flower in particular.

*The fairest Forms that Nature shows
Sustain the sharpest Doom;
Her Life was like the Morning Rose,
That withers in its Bloom.**

The Succession
of Flowers.

But as the Generality of Flowers are employed to adorn the Dwellings of Man, at least for a certain Time, they never make their Appearance in one united Body, nor at the same Period of Time. They tender him their Service in Succession; they agree to beautify the different Seasons; they succeed each other, without leaving any vacant Spaces, and we seldom complain of their Absence, since they divide among them the four Portions of the Year.

Prior. The Flowers, by this Succession, entertain us with a splendid Feast, wrought into Decorations that succeed each other, in a regular Order. The flow'ry Liverwort, Cowslips, Violets, Hyacinths, Auricula's, Lillies of the Valley, Daffodils, and Wind-Flowers, present us, if I may use the Expression, with the first Act.

These disappear, for the most Part, and resign their Places to Imperial Crowns, Arabian Beans, Flower-de-Luces, Jonquils, the Ranunculus, and all the Flowers which, at present, crown this Paterre. The distant Fruit-Trees intermix their softest Colours with the rising Verdure, and heighten the Glow of the Parterre.

You may, at the same time, see the opening Bloom of the

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Rose-Bush, the Lily, the Julian, the Gilliflower, the Gold-Locks, the Mithridate-Mustard, the Carnation and Poppy: Their Stems and Buds are fortified by insensible Growth; and these are the Preparations for the Array of Summer.

Autumn will afterward unfold the Pyramidal, the Balsamine, the Turnsole, the Tuberoſe, the Amaranth, the Indian Pink, the Meadow Saffron, with a Variety of other Species. The Festival will be continued without Interruption: The predominant Colours are always assuming an Air of Novelty, and prevent, by their agreeable Variations, that Disgust which is inseparable from Uniformity.

The Winter, attended with its Train of Frosts and lowering Skies, draws her sable Curtain at last over the Face of Nature, and intercepts its Features to our View; but while it disposes us to wish for the Return of verdant Scenes and Flowers, it affords some Repose to the Earth, which has been exhausted by so many Productions.

Countess. We are so sensible of the Beauty of Flowers, that we have acquired the Art of securing their Presence, in spite of the Rigours of Winter. We preserve the shatter'd Remains of Autumn, and can frequently raise a Bloom of Spring Flowers, without waiting for the Return of the Zephyrs, whose Approaches are always too slow. The Tuberoſe, the Amaranth, the Stork-Bill, and the whole Class of Flowers that are well regulated, may be much retarded in their Appearance, and preserved till the Laurus-Tinus flourishes in our Appartments, that exclude the injurious Blasts of the North. The Wind-Flower and the Violet, aided by a moderate Heat, and the Hyacinth and Daffodil placed in a warm Air, and daily refreshed with Water, will adorn our Chimneys in the most gloomy Months. Thus do we connect the Autumn and Spring, and they seem to associate with a pleasing Harmony.

Prior. The Flowers are not only diversified from one Season to another, but even those that bloom together in the same Period of Time, have a beautiful Variety of Forms, which demonstrate the endless Invention of their Author, together with his Design to multiply the Ornaments of our Habitations. 'Tis impossible to enumerate the different Plans, by which all the Families of Flowers have been formed without repeating any perfect Similitude between them. Every Touch is truly original, and peculiar to a certain Species.

cies. They vary among themselves, in the Shape of the Petals*; and the Delicacy of the Fringe that borders them; the Disposition of the Chives that are connected with the Heart; the Structure of the Cup that unites the several Parts; the Formation of the Stem that sustains them; the Turn of the green Foliage that surrounds them, and principally in the Colours, with which they are tinged, and the Airs peculiar to their Class. Let us take a short Survey of the Beauty that results from so many splendid Tints.

The Colours.

I am not certain whether Flowers derive more Advantage from being viewed in conjunction with each other, or from a separate Consideration of their Beauties. When they are united in a Cluster, they form an Assortment that diffuses an engaging Propriety thro' the Whole. Nothing appears indelicate, ill-disposed, or too much contrasted. The Concourse of all these Colours produces a Harmony, extremely varied, and which entirely satisfies the Eye. When they are considered in a separate View, each Individual discovers its personal Merit by a Symmetry peculiar to its Nature. Let us gather the first that accidentally comes to hand.

It is one of the last party-coloured Anemonies, and alone presents me with all the Beauties I admire in the whole Parterre. I here observe a Variety of different Colours, which grow fainter by degrees, and by the softest Diminutions lose themselves in the Lustre of the adjoining Tints. The Tulip, on the contrary, limits its Colours by a delicate Stripe, which is elegantly distinguished, and by contrasting one Colour with another heightens the radiant Complexion of both.

The Form of Flowers.

If the Divine Wisdom seems to have had a Complacency in the Distribution of those Colours that array the Flowers, what a new Charm has it imparted to them in their particular Airs and Forms! Take a general View of the Flowers that fill the Divisions of this Parterre; you may observe some of them rising with a Mien of Dignity and Grandeur; others, without the least Pomp or Ostentation attract the Eye by the Regularity of their Lineaments. What an Aspect of Majesty is visible in the Growth of

* The Leaves that compose the Vase of the Flower.

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Tulips ! How elegant is the Symmetry of those Pyramids, in which the Lillies will soon appear ! At the Foot of these stately Flowers I discern a Pansy, which discloses nothing remarkable : One would imagine it wanted Resolution to make its Appearance. It promises but little at a distance ; but the Moment we approach it, we find ourselves delighted with a refreshing Fragrance, and a Profusion of peculiar Graces.

Countess. You have given me a sensible Pleasure by raising it from its Obscurity : 'Tis, indeed, my favourite Flower, because it not only affords us its Presence in all Seasons, and supplies the Absence of other Flowers that have disappeared, but is likewise graced with a Fineness of Texture, and a Glow of Purple which nothing can imitate ; the softest Velvets, when compared with this little Flower, appear like Canvas to the Eye.

Cheval. It is certain, that the Works of our Looms have neither the Delicacy, nor the Lustre of Flowers ; but then they have one Advantage of which these are destitute. They may be changed and diversified by new Inventions ; whereas Flowers are always the same. How pleasing are the Charms of Variety !

Countess. 'Tis a Pleasure we are very solicitous to procure in all our Works. We consult it in our Habit and Furniture, our Music, Language and Building. All our Inventions are in a constant Fluctuation, and we are never fixed in any one Particular. One Mode is banished by another, and we are not certain that the best of our Performances will be thought agreeable, either for the space of a hundred Years, or at the distance of a hundred Leagues. We vary the same Things into a thousand Shapes, but after we have reformed them with our utmost Care, we find ourselves as uncertain, and as little advanced in our Progress as we were the first Day. But the Case is very different in the Equipage of Flowers : The Substance, the Colour, the Shape, are always the same, if we except a few Tinctures, whose Variations are very inconsiderable, and always pleasing. We are never tempted to alter them by any Additions, or Diminutions : We should be deprived of all their Beauty by that proceeding, and their Model is so amiable already, that we are persuaded it needs

needs no Reformation. The Roses have never changed from the beginning of the World, and they have constantly created Pleasure to this Moment.

Prior. These are Beauties which, without any Preparations, or sedulous Attention, have attained their Perfection, in all the Simplicity of Structure, and are fixed by the Standard of Truth.

Countess. This may be the very Circumstance, that occasions the real Difference between the Beauty so inseparable from the Works of Nature, and that which is changeable and transient in the Productions of Man.

Prior. We must not be surprised, if Men are limited, unfertile and fickle in their Inventions. They proceed with uncertain Steps, when they would trace out what is amiable. That Matter which they shape into innumerable Forms, in order to accommodate themselves with Houses, Furniture, and Habits, is not their own Work. They are even unacquainted with its Constituent Parts; it often frustrates their Labours, and is frequently destroyed, or rather disconcerted under their Hands. They endeavour to re-adjust it in a more promising Form; but when they have accomplished it to the best of their Capacity, it is attended with fresh Inconveniencies, and creates them new Dissatisfactions.

The contrary of all this is visible in the Works of God, and every Part of his Creation has a determined and persevering Beauty. His Will regulates all that is amiable. The Object which he has once created never varies, and is always pleasing. He makes it evident, that he is the Master of Nature, and that he renders it tractable to his Laws. This Matter, which conforms to his Orders with so much Pliancy and Obedience, assumes all the Shapes with which he pleases to impress it, and is immediately productive of each Effect that he ordained. He imprints upon it the most apparent and opposite Characters, according to his Sovereign Pleasure. He moulds the Face of a Lion, a Tyger, and a Leopard, into an Assemblage of dreadful Features and Lineaments, that fill the most undaunted Hearts with Terror. But when his unerring Hand fashions the same Matter into Flowers, to delight our View, he frames them in a different Manner. He gives them

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them a soft and elegant Form, and arrays them with the most delicate Attractions, that inspire us with Delight, the Moment we behold them. He confines the terrifying forms of Nature to Woods and Deserts remote from Man, but sheds a Profusion of Flowers and Verdure over our Fields, our Meadows, our Gardens, and all the Prospect around us. Man, therefore, beholds himself encompassed with Objects that are only offered to his View, with an Intention to solace himself in his Labours, by presenting him with Pleasures in every Part, that amuse him without corrupting his Mind.

Countess. Flowers are not only intended to beautify the Earth with their shining Colours, but the greatest Part of them, in order to render the Entertainment more exquisite, diffuse a Fragrance that perfumes all the Air around us; and it should seem as if they were solicitous to reserve their Odours for the Evening and Morn, when walking is most agreeable; but their Sweets are very feint during the Heat of the Day, when we visit them the least. Have the Flowers entered into any mutual Agreement to serve us with so much Complaisance?

The Fragrancy
of Flowers.

Prior. The Sap is perpetually transpiring through the Flowers in Proportion to the Sun's Warmth. These fine Spirits, which are the Essence and aromatic Parts of the Flowers, are easily dispersed through an Air rarified by Heat, and affect the Smell but faintly at that time; but their Dissipation is much abated, when the Air is condensed by the Return of Night. The Action of the Sun, by which they are diffused, is too weak in the Morning and Evening, to scatter them to any considerable Distance, and 'tis then that the Re-union of these Spirits affect us with the strongest Impressions.

The Evaporation of these minute Particles forms an Atmosphere around the Flower, which is dissipated or condensed, as the Action of the Air or Sun is more or less intense.

The Atmosphere
of Flowers.

Countess. The Spirits which compose the Atmosphere of Perfumes, as you call it, must be extremely subtle, and delicate, since the Day-Light alone is sufficient to disperse them through the Pores of some particular Flowers. I cultivate one, for

Crane's Bill.

for Instance call'd the Crane's Bill, with a Tuberoſe Root, which never diſpenſes the leaſt Odour, while the Day continues, but is exquisitely fragrant in the Night.

Prior. This is a Demonſtration that the Spirits of Flowers are diſperſed in Proportion to the Sun's Action upon them. But with your Permiſſion, *Chevalier*, we will not confine ourſelves to this Particular. In the Study of natural Things true Philoſophy is never limited to the Contemplation of their Mechanifm, but extends its Curioſity to the Benefits they produce: We are eaſily ſenſible of the Inter-
 courſe that appears between the Flowers, the Air, and the Sun-beams; and can we poſſibly be unacquainted with that Goodneſs which is ſo attentive to make this Correſpondence advantageous to Man? He is treated like a Sovereign in each Particular. Providence has not only enamelled his Way with Flowers, for the Entertainment of his View, but has taken Care to embalm and purify the Air he breathes, by ſhedding the nobleſt Perfumes in his Paſſage. One would even imagine that the Flowers acquitted themſelves of this Duty with a conſcious Punctuality, ſince they reſerve their moſt ſenſible and pleaſing Exhalations for thoſe Moments of the Evening, when they behold Man reſorting to their Beauties for his Recreation after his Labours.

Counteſs. Their Services are not limited to the Sight, and Smell, and other Senſes may derive Advantages from their Miniſtration. They ſupply us with Paſtes to enrich our Deſerts, and preſent us with Powders to perfume our Wardrobes; they afford us delicate Syrups, and even Remedies to relieve us when we are indiſpoſed. Violets, Jonquils and Peach-Bloſſoms, Roſes, Jeſſamines, Carnations, and eſpecially Orange Flowers, accommodate us with Conſerves, and a Variety of Confections; together with Eſſences and diſtilled Waters, that continue to us the Enjoyment of the Odours and other uſeful Qualities of Flowers, when they have long ceaſed to be in Season.

Chevalier. I have always been fond of Flowers, but my Idea of their Merit was too mean and imperfect; I conſidered them as little Productions that were accidentally ſcattered over the Earth. But I am now ſenſible they make their Appearance to pleaſe me, and I regard them with Admiration and Gratitude.

Counteſs.

Countess. Nothing can be more just than that Thought ; what Advantage could we derive from the Sense of Sight, were it not accompanied with proper Sentiments ?

Prior. The Flowers, my dear *Chevalier*, which tender us such pleasing Services, disclose a Function still more noble and beneficial, by perpetuating the Plants, and embellishing the Face of Nature.

Chevalier. What can they possibly do more ?

Prior. They furnish us with Instruction, and conduct us by gentle Steps to the Knowledge of the first Being, who has condescended to shape and paint them with so much Delicacy, and to grace them with such a Variety of Beauties. How amiable must he then be, who is the Source of so many Charms in such an Infinity of Objects, to which he constantly imparts the same Lustre they disclosed, when they first appeared on the Earth ? And if he has been pleased to bestow so magnificent an Array on Creatures of such a transient Duration, and who To-morrow will be withered and trodden under Foot, like the Herbage of the Field, what will he not do for us, who are the Objects of his Complacency ? What Riches will he not shower upon us with Profusion, when he shall fill the Desires which he himself has created within us, and when his Omnipotence shall be employed to embellish the Souls of Men ?

THE

THE
PARTERRE,
OR,
FLOWER-PLOT.

DIALOGUE II.

The COUNT. *The* CHEVALIER.

Chevalier. IF I should have an Inclination to be a Florist, will your Lordship condescend to be my Instructor?

Count. You are to set out for *Italy* next Year; and to what purpose, then, should I amuse you with a Conversation on Flowers, when you are preparing to reap a Harvest of Laurels?

Chevalier. But this Harvest is not perpetual, and I can judge by your Lordship's Example, that the Shade of Laurels and Flowers may be properly intermixed. We have a Number of vacant Hours in the Country, and no Attention can employ them better than the Cultivation of Flowers.

Count. Your Opinion is perfectly just, my dear *Chevalier*, and I shall esteem it a Pleasure to present you with your first Rudiments on this Subject.

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The Culture of Flowers is an Exercise that can never be too much commended, when it is used as a Recreation, after any Employments that are more necessary. It furnishes our Houses with delightful Orna-

The Advantages arising from the Culture of Flowers.

ments, and supplies us with Accommodations that we may share with others without any Detriment. And as the Taste for Flowers, and the Pleasure of disclosing them to the View of others, are almost inseparable, we may consider their Cultivation as an agreeable Band of Society. But they are equally charming in Solitude, and supply the Absence of Company to those who are alone.

Cheval. My Amusement is highly dignified by these Particulars; but lest your Lordship's Instructions should escape my Memory, I intend to commit them all to Writing.

Count. That will be a very proper Proceeding. However, I shall not enter upon any little Particulars, but think it sufficient to acquaint you with some of the first Principles; the rest will grow familiar to you by Practice, in which every one is governed by his own Experience. Let us begin then with preparing the Plot for our Flowers.

As amiable as they are in themselves, we heighten their Agreeableness in the Parterres. In this manner we improve Diamonds. When we intend to make these appear in their best Perfection, we join the Advantage of a fine Situation to their natural Beauties, and cause them to be elegantly set. Flowers never appear to more Advantage, than in the Borders and Compartments of a regular Parterre. But instead of explaining to you the Nature of a Parterre, I shall only acquaint you, the Border is a long Bed of Earth which is carried round the Parterre, and wherein you see such a Variety of Flowers. The Compartments are little Plantations, or Inclosures of Box, formed into different Figures, of which some Parterres are composed.

When the Plot of Ground, which is to be appropriated to Flowers, happens to be very small, instead of encompassing the Partitions which divide it, with a Verge of Box, or Turf, which would take up too much room, we content ourselves with a plain Border of Wood, painted green. The Propriety of this Expedient is always the

same, and we are discharged for twenty Years from all Cares and Expences of Reparation.

If we happen to possess a spacious Tract of Ground, we chuse that Part which is nearest to the Body of the House, and trace out a Parterre, either in Embroidery, or plain Turf. This Parterre will be very agreeable to the Eye, and may be so disposed as to present a beautiful View to the Apartment, with Borders embellished with common Flowers, provided the Intermixture be properly blended; and the Regularity of its Figure will suffice, as an Ornament to the whole Place, when the Season for Flowers is past.

Chevalier. I have known some Gentlemen extremely pleased with their Parterres, that represent their Arms, with their Supporters, in Box.

Count. All crouded Designs and Figures that are too much compounded, have been long discontinued in Parterres; for they are so many Labyrinths, in which the Eye of the Spectator is lost. We grew sensible, by Degrees, that all real Beauty is inconsistent with Confusion; and we think the *Gothic* Taste is excluded from Parterres, as well as from other Works, by a Moderation in the Use of Ornaments.

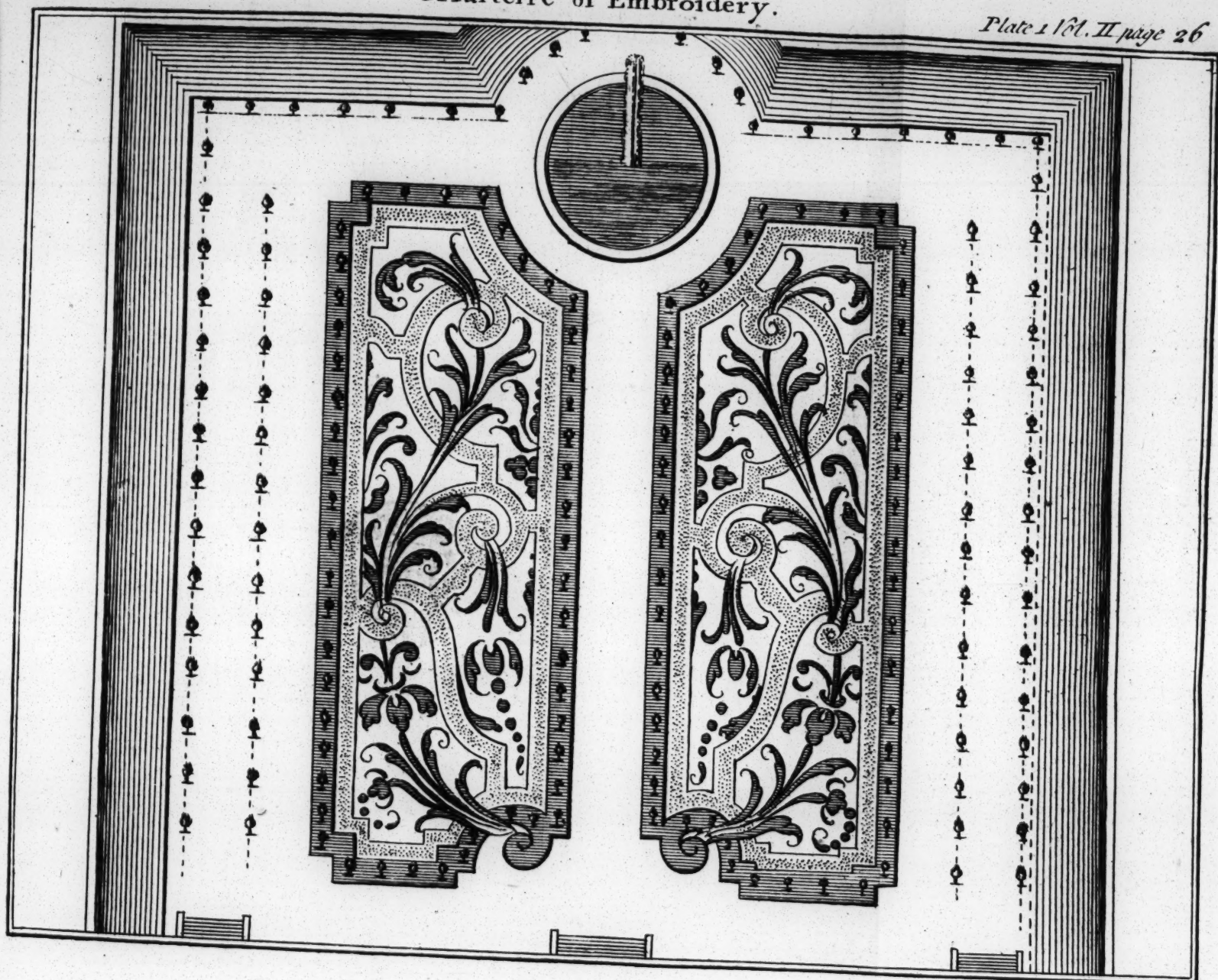
The Extent of Ground intended to be laid out in a Parterre, may be divided into several long Squares, or into various triangular Pieces, corresponding with each other. Some Lines of Box, usually accompanied with a Scroll-Turf, compose a Flourish, a Palm-Branch, or some other simple Bough, that appears easy to the Eye, and shoots from one End of the Square to the other. If the Plot be very large, a Work of Turf may be drawn round the whole Embroidery, and separated from it by a Track, with a Border to edge the Square. This neat Figure, which is easily taken in at one View, and may be improved with a covering of Sand of an amiable Colour, needs no Addition but the Flowers in the Border; and these few Objects will sufficiently enrich a very large Plot. You may observe all these Particulars in the Parterre before you.

Chevalier. That which has been lately finished, under the Window of your Lordship's Closet, is entirely different in its Form, and without any Embroidery.

Count.

A Parterre of Embroidery.

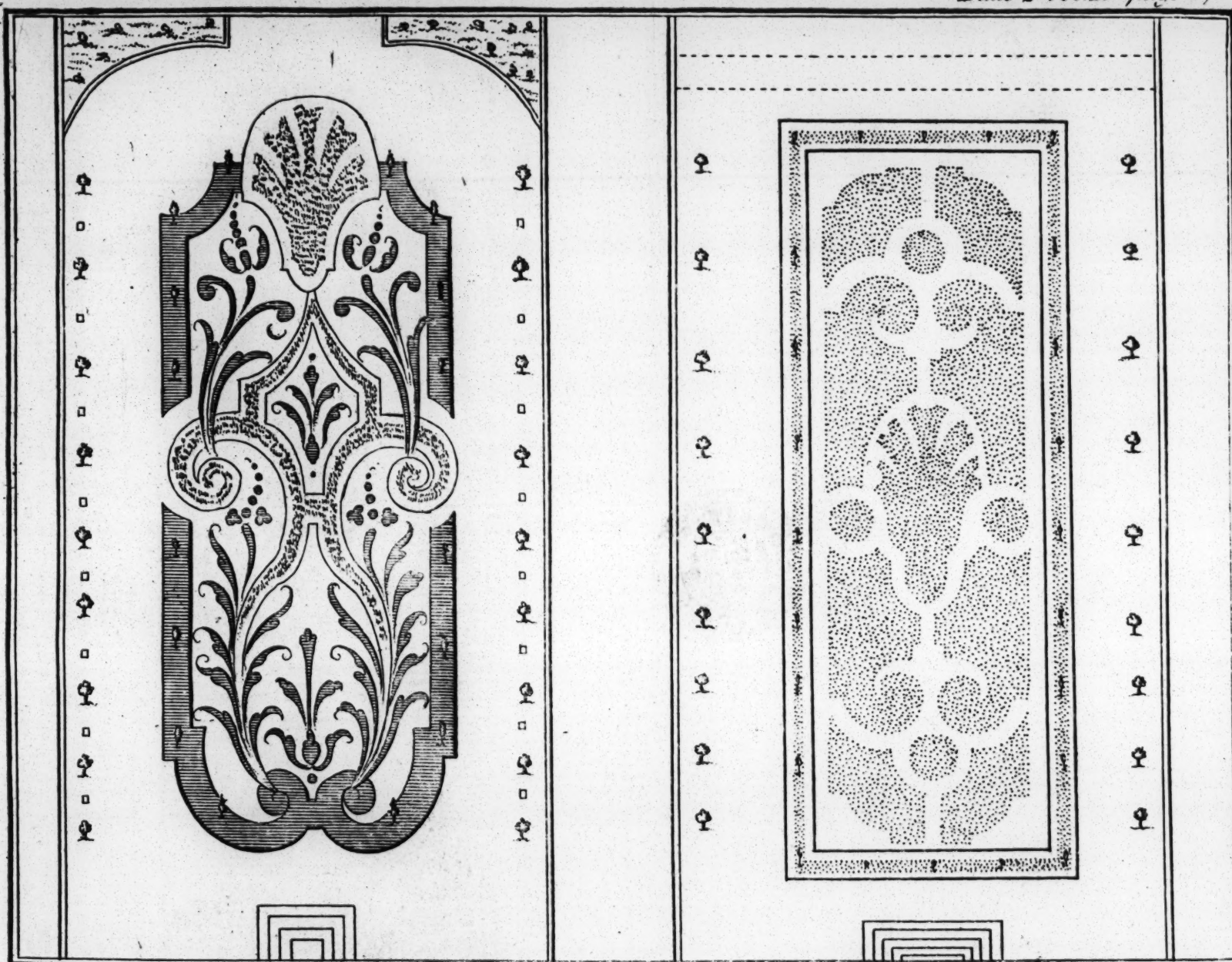
Plate 1 Vol. II page 26



I. Mynde sc.







A Parterre
intermixt wth Embroidery & Turf

A Parterre
After the English manner
border'd with Sedges of Turf

J. Mynde Sc.

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Count. As noble and entertaining as the Simplicity of the first Method may appear, there are several Persons of an excellent Taste, and the *English* Nation in particular, who give the Preference to a Parterre of Turf; which is often entirely plain, and without any Figure, but the long Square, with a Bason in the Centre. The Space comprehended by these Squares is no more than a Growth of green Moss, separated from the Border by a Path covered with Sand, or the Powder of burnt Bricks: And in order to adorn the middle of the Border, instead of Flowers which are usually planted there, it would be more agreeable to draw a Line of Turf, separated from the two Borders of Box, by a double Path of Sand.

A Parterre of
Turf.

Chevalier. This long Line of Turf, carried on through the whole Extent of the Border, may perhaps be proper, but it certainly must appear very naked.

Count. Care is taken to prevent that disagreeable Effect in this manner. Along the Line of Turf, and at regular Intervals of Distance, 'tis customary to raise several little Pyramids of Ivy; between which, and upon Pedestals of Stone or Earth, cased with Green, a Number of large Vases are placed, to receive in Panniers of Osier several fine Clusters of Dame's-Violets, Stock-Gilliflowers, Carnations, Crane's-Bill, Spanish-Jessamines, and other Flowers that vary according to the Season.

Chevalier. I entirely declare for the *English* Taste, and think this Arrangement at once simple and magnificent.

Count. The Beauties of this Cast are always more durable, because they approach the nearest to the Method and Taste of Nature. This Parterre has likewise another Advantage: For as it requires but little tending, it is consequently the better accommodated to the Country, where we have not always a Gardener, who has much Leisure to employ in the Culture of Flowers. We find it very agreeable too in Town; for tho' this Parterre has a Variety of Ornaments, yet it frees us from the Necessity of renewing them perpetually, and is not subject to many little Inelegancies, which are almost inseparable from Borders of Flowers.

Chevalier. I think I have seen Parterres of a third Species; I mean such as are ornamented with Flourishes, or Shell-Work with an intermixture of Turf.

Count. In order to accommodate every Taste, and those Persons in particular who fancy that neither Beauty nor Design can subsist without Embroidery; a third Parterre has been invented, which is a Mixture of the two former, and comprehends some Strokes of Embroidery; with a Surface of Turf, shaped into a Trefoil, a Flourish, a Shell, or some other Ornament they imagine most agreeable. Turf itself is not always the Furniture of this Plot; for it may be filled with Daisies, China-Pinks, and Snow-Drops, which make a pleasing Appearance in their Season of Bloom, by the Enamelling of their Flowers, and through the rest of the Year, by their Verdure. But the Embroideries and Compartments must be executed with great Delicacy, and constantly repaired by new Culture.

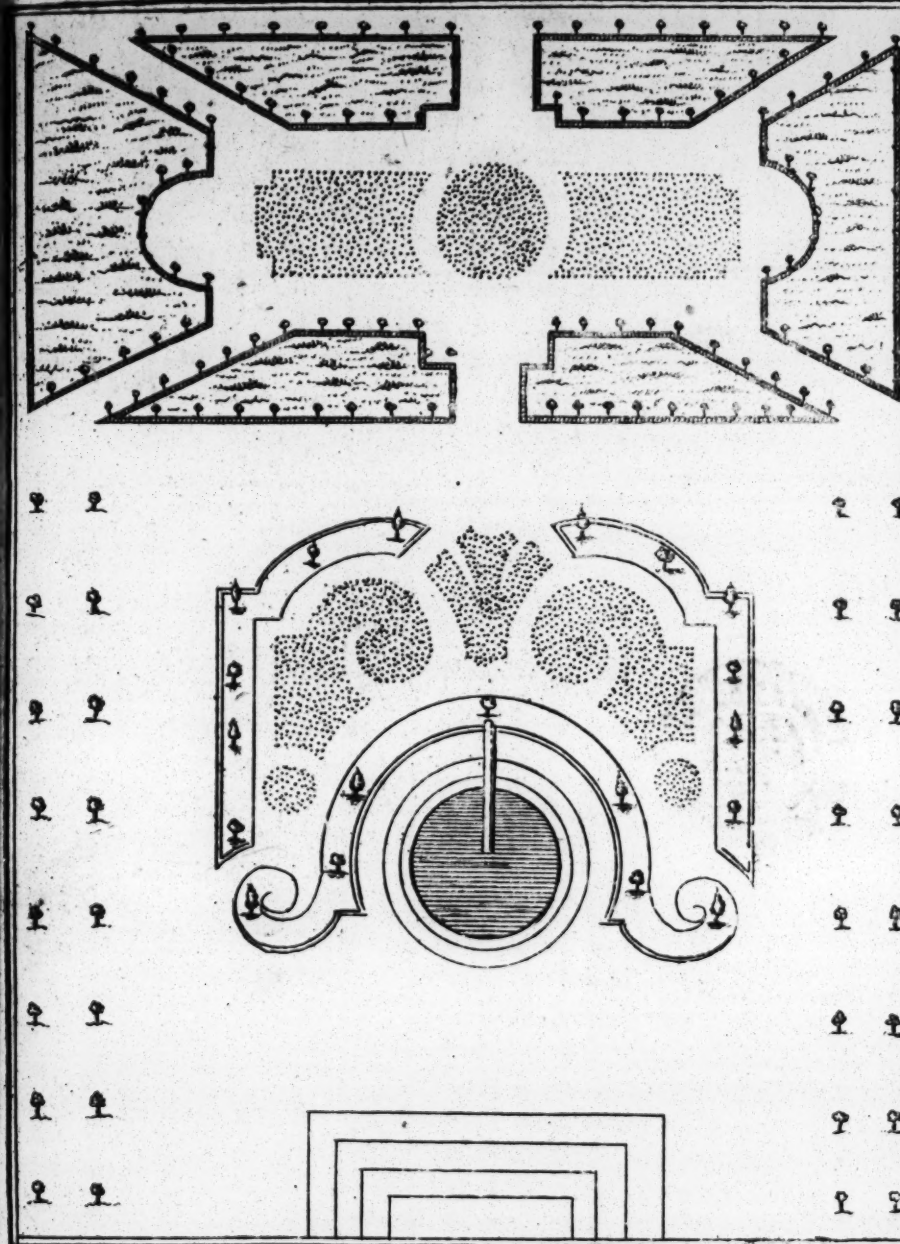
Chevalier. I give the Preference to the Parterre of the second Species.

Count. We find it the most agreeable of any.

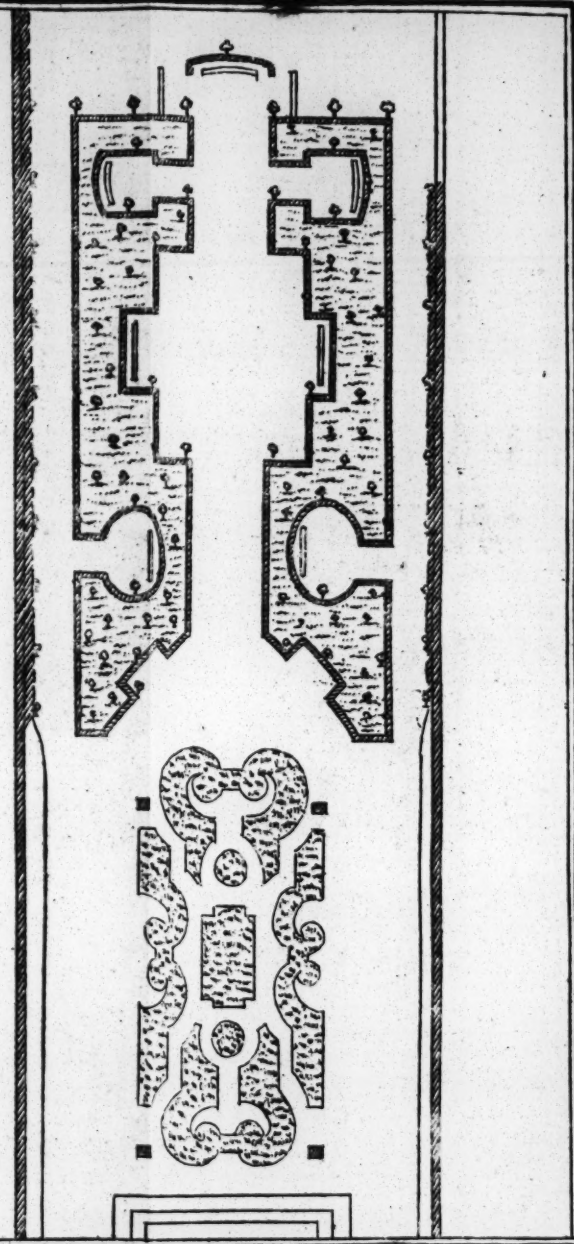
If you have a large Quantity of Flowers, and are curious to render the Enamelling more lively, by ranging them near one another, your Parterre may be then formed in Sections or Cut-Work, and you may divide your Plot into several square or triangular Quarters round a Statue, a Basen, or some other common Centre. You may likewise distribute into each Compartment an equal Number of Sections or Inclosures formed with Box, some square and others round, a third sort oval, and a fourth sloaping in such a manner, that the whole may present a just and regular Appearance to the Eye. They are all separated by little Paths, equal on every Side; and this Disposition not only contributes to the Regularity of the Design, but at the same time, facilitates the Access of the Florist, to the Beauties he possesses.

Chevalier. What are your Lordship's Sentiments of the various Windings we see in some Parterres? I am inclined to believe they are not agreeable to your Taste.

Count. Instead of acquainting you with mine, which never prescribes Rules to others, I shall only declare to you, that those who are generally acknowledged to have a Just Taste, never amuse themselves with forming the little



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little Figures, and if you will let this Point be decided by their Opinion, a Garden divided with Uniformity into several long Squares, bordered with painted Wood, presents the most amiable and regular Appearance to the View.

Chevalier. I should be glad to be informed why the Beds of Earth, in which the Flowers are planted, are raised higher than the Walks.

Count. If the Flowers be either disposed along the Borders that edge the Embroidery, or planted either in Compartments or Cut-Work; or if it be thought sufficient to place them under the Windows, in long and separate Beds, and without forming them into a Species of Parterre; the Earth should always be raised toward the Middle, and carried down in a double Slope. This Disposition gives a Flow to the Water, which would otherwise rot the Stems of the Plants, by continuing too long on a level Surface. This Eminence likewise disengages all the Flowers, and enables them to rise one above another, like the Ranks of an Amphitheatre.

Chevalier. The Prior has still another Method; for, besides the Flowers of his Parterre, he has a Number which he disposes apart, on several A Theatre of
Flowers. Stages where they are more visible.

Count. Those who are curious, and especially the professed Florists, have Recourse to this Expedient, which gives them a more commodious View of their Plantation, and enables them to cultivate some favourite Flowers with the greater Freedom. This Disposition is called a Theatre of Flowers, and consists of several Ranks, or Steps of Wood, ascending one behind another, by which Means the Eye, as well as the Hand, may be extended to all Parts, without any Impediment. This particular Structure is usually reserved for Auricula's, and Carnations; and as these Flowers require more Shelter from a hot Sun-shine, and Rains, than others; the Theatre is always accompanied with a little Roof of Wood, or waxed Cloth, and is likewise placed at some Distance from the Wall, to give the Air a free Circulation around it; and in order to exclude Earwigs, Snails, and other Vermin, the Feet of the Stage that supports the Theatre, are placed in leaden Vases, which must always be full of Water: This Precaution will secure the Flowers from those noxious Insects, who will

immediately retire from the Vases rather than swim through the Water, to make their Depredations on your Flowers.

Chevalier. Some curious Persons in the Neighbourhood have another kind of Theatre, which they call, *a Pyramid of Flowers*. When those, which are most beautiful, have adorned the Parterre for some time, they cut them towards the bottom of their Stems, and then place them in Vials on the Steps of a Pyramid, raised for that purpose, in the middle of their Halls; where they preserve them a considerable time, by the Aid of Water and Shade.

Count. This Invention may assemble, in one View all the various Beauties that were scattered through the Parterre, and regale us with a new Scene of their Perfections.

Vases. It is likewise usual to provide Vases, or Pots, made of Earth, Brass, Lead, or any other Substance, in order to bestow new Ornaments of Flowers on the Parterres themselves, as well as on low Walls, Terrasses and Balconies. These Vases unfold their Flowers with an advantageous and noble Air, and facilitate their Cultivation, by enabling us to place them either in Shade or Sun-shine, as may be most proper and best suited to the Season.

Chevalier. Is there not some other Advantage to be gained from the Pots which are capable of being removed where we please?

Count. What may that be?

Chevalier. We might place the Flowers as near to each other as we should think fit, in order to diversify the Colours of those which are to spring from their Seeds; and possibly to preserve the most amiable of the Tribe from any Intermixture or Variation, from Year to Year, by disposing them apart from others.

Count. In what manner do you conceive, that one Flower makes any Discovery, or not, of its Neighbourhood to another?

Chevalier.

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Chevalier. An *English* Gentleman happened Yesterday to pass this Way, and having heard some Account of your Lordship's Flowers, expressed an Inclination to see them. The Prior and myself were much delighted while we entertained him; and he assured us, he was persuaded that the Powders, which fall from the Tops of the Chives, are frequently waisted to some Distance by the Motion of the Air; and that by their Action on the Pistil or Style of another Flower of the same Species, but of a different Colour; they impregnate some of its Seeds, and diffuse a new Tincture into the Colours of the Flower, which springs from that Seed.

New Improve-
ments, &c. by
Rich. Bradley,
Fellow of the
Royal Society.
Vol. I.

Count. This Observation, may, in my Opinion, be justified by many surprising Varieties, that are discovered every Year in the Flowers raised from the Seed of those which are ranged together on a Theatre, or reared in the same Bed.

Chevalier. Our *English* Gentleman acquainted us with another Particular, which may possibly be very useful, were the Experiment certain. He assured us, that when he had cut the Chives of several Flowers before their first Opening, he placed those Flowers at a Distance from the rest, and had never observed them to produce any Seed; but added, that when he had cut the Chives of some others, and left them in the common Bed with their Companions, he found them all impregnated with Seeds, which, undoubtedly, were imparted by the neighbouring Flowers. He likewise observed, that after he had cut the Chives of a Flower when it was first unfolded, he scattered on the Heart or Style the Powder of another Flower of the same Species, that was fully blown, and which created a remarkable Change in the Flower he had deprived of its Seed. But he surprised us extremely when he added, that the same Experiment made on Flowers, which entirely differed from each other in their Nature and Qualities, produced Seeds; and that the Flowers, which sprung from them, were composed of those different Qualities: but he assured us that these new Flowers, which had no Similitude to any others he had ever seen before, were

unproductive of any Seed the next Year, and not perpetuated like the rest.

Count. Were this Fact certain, it would have some Correspondence with the Birth and Sterility of Mules, who may be considered by us as Monsters, because they are the Offspring of animals, who not only differ in Species, but likewise in Nature. But repeated Experiments must inform us of the Consequences and Practice that may be derived from a clear Knowledge of the Structure of Flowers.

Chevalier. I intend to make all these Experiments with as much Circumspection as possible.

Count. I am pleased with your Curiosity : Be sure to cut a Number of Chives, and inform yourself by all the Trials you can invent, neither your Time nor your Money will sustain any Risk by this Proceeding. I think I have some Experience in the Management of Gardens, but shall be charmed to receive any Information from you. And though I am far from resigning my Judgment to the first plausible Idea presented to me by other Persons, yet I think it a criminal Presumption to be so tenacious of one's first Knowledge, as to dislike any mention of new Discoveries. We are still in the Infancy of Arts.

Chevalier. My *English* Observer has excited my Curiosity ; but, at present, I am most attentive to the common Method of raising Flowers.

Count. They require Attentions of two Kinds ; the one are common to all, and the other peculiar to each Species. The first, which we will,
The Preparation
of the Earth. at present, consider, are the Preparation of the Soil, the Manner of multiplying Flowers by the Seed, and the Nurture of the Plant.

Our first Care is to provide early in the Season a Quantity of pliant and vigorous Earth, which we incorporate with that which is light and sandy, and improve it with an Intermixture of Mould, which is only Compost, entirely rotten, to which it may be very advantageous to add a Proportion of Ashes. These Earths should be past, in equal Portions, either through a Hurdle, or an Iron Sieve ; or we may let the rich Earth predominate in one Heap, and the thin Soil, or likewise the Mould, in the other

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Parcels. It will be proper to let these Earths lie uncultivated, for the Space of one Winter at least, that they may be entirely blended together; but there are several Florists, who suffer them to continue two Years, or even a longer Time, in this Manner. You are sensible that all Flowers spring either from Plants that have Roots, or from those that are bulbous, which are such as are produced from a Body like an Onion. The rich Earth is usually appropriated to the Roots, and that which is thin to the Bulbs.

But it is not sufficient to have made the first Composition of these Ingredients, for as Plants are continually attracting the Juices of the Earth, these would soon be exhausted, were not that frequently recruited with the proper Mixtures, and applied from Time to Time to the Plants. Care should likewise be taken not to open the Mould too much, when the Plant has a Root; but if it springs from a Bulb, it will be necessary to raise it entirely out of the Earth, once in three Years, at least.

The second Method, which is common to all, or the Generality of Flowers, is to multiply them by Seed; tho' this Effect may be obtained by other Means. Seeds are infallible Expedients for a plentiful Production, as well as for Variety and repeated Novelties.

The Necessity
for Sowing.

When Gardening began to be greatly improved in the last Reign, which revived a general Elegancy of Taste, we were supplied from *Flanders* and *Holland*, with those Flowers that were most amiable and uncommon. Several curious Persons in the *Low Countries* frequently discovered new Species in every Class of Flowers, by their Practice of Sowing; and indeed they were the only People by whom this Practice was observed, possibly because we were not disposed to pursue that Method, or could not easily accommodate our natural Impatience to the slow and distant Events of Experiments. However, we at last grew dissatisfied with purchasing, at a great Expence, from Foreigners, those Beauties, and diversified Novelties, which our own Soil was capable of producing. The Florists of *Paris*, and some Provinces, especially *Normandy*, and *Caen* in particular, began to imitate the *Flemings*, in their manner of sowing, and even in larger Quantities; which,

in Conjunction with the benign Temper of our Climate, furnished us with Riches much superior to those we received from the *Netherlands*. We no longer needed the Assistance of Foreigners, and they frequently made their Court to us.

The Seed.

The Seeds of Flowers should be gathered and kept dry. When the Stems that support them begin to assume a yellow Hue, or when the Seeds may be judged to be sufficiently ripe, it is usual to cut the Tops of the Stems, and to leave the Seeds in the natural Coats that enclose them. They are exposed for several Days in a warm Sun-shine, which hardens the Skin that enfolds the Seeds, and contributes to their better Preservation.

The proper Season for Sowing.

The Seeds are sown either at the Beginning of Spring, that the Plants may be rendered capable of sustaining themselves, during the dry Season of Summer; or they are sown in *August* and *September*, that they may have sufficient Time to be fortified against the Frost. But as each Seed has its peculiar Season wherein it proves most successful, if you should happen to be uncertain of the proper Time, or have Foreign Seeds to set, and with whose Cultivation you are unacquainted, it will be proper to distribute them into three Parcels, the first of which you may sow in Spring, the second in Summer, and the third in Autumn, by which Means you may be certain to enjoy the Production you desire.

The Seed may be planted either in a Bed, when the Compost has lost its Heat; or in larger Plots of Earth disposed into Tracks, separated from each other by a Breadth of four or five Fingers; or in flat and portable Boxes, in whose Bottoms several Apertures should be made with an Augre; and these are to be covered with an Inch Depth of Pit-Coal, or any other porous Substance.

Chevalier. This Preparation is apparently intended to facilitate the Efflux of the Water.

Count. It would chill the whole Mass, were it to remain there too long.

Chevalier. To what particular Seeds are those portable Boxes appropriated?

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Count. To those whose Culture is delicate, or to such as are most in our Estimation, these little Boxes are commodious Cradles for the vegetable Infancy, which by this Expedient may be disposed either in Sun-shine or Shades, and may be visited by the Dew, or covered from it, as Occasion requires.

The Earth of these Boxes cannot be too loose and penetrable; for as the Flowers and their Roots require a light Soil, it must be evident, that a hard and compact Earth would be very pernicious to the delicate Fibres that shoot from the Seed.

The Seeds are sown almost even with the Rim of the Box, and are covered with half a Finger's Depth of Earth, shook through a Sieve. A thin Surface of Straw will likewise be necessary, to prevent the Seeds from being carried away by the Water, and to preserve them from the immoderate Heats which would otherwise rot or scorch them, as well as dissipate the Juices, by which they are nourished.

Chevalier. But what Advantages can be derived from such a Multitude of Flowers as spring from Seeds? Their Number seems a little perplexing.

Count. The very Circumstance of their being so numerous, enables us to select the finest of each Class in Quantities sufficient for our Purpose; and when we have replanted those Species which are most vigorous, and in the greatest Esteem, we may tend them agreeably to their particular Constitutions, or the Exigence of the Seasons. In proportion to their Delicacy we cover them more or less in the Winter, with Mats supported by wooden Forks or Hoops, or else without common Straw or dry Compost. The Refreshments we afford them must correspond with the Driness of the Season, and we should never water them with a Vessel that has only one Spout, which will be injurious to the Plant, as the Stream flows with more Violence than when it passes through the Ball of a Watering-Pot that is perforated with several Holes, which distribute the Water into a Variety of little Streams, and render it a gentle Dew, whose Humidity at once refreshes the Plant, and all the adjacent Earth. We should likewise be careful to visit the young Plants from Time to Time, in order to free them as well from Snails and other Vermin,

that gnaw them, as also from rotten or distempered Leaves which are apt to communicate their Infection to the Heart.

When it becomes proper to place them in Pots, the opening, at the bottom of those Vessels, should be covered in such a manner that the Water may have a free Passage, at the same time that all Worms are excluded. In the Seasons of Great Rains, Hail or Storms, it will be necessary to lay the Pots with their Sides to the Earth, and their Bottoms turned to the Wind.

Chevalier. This Precaution will secure the tender Plants from many Injuries; But I generally see the Pots sunk into the Earth; so that it should seem needless to transplant the Seed into those Vessels.

Count. They are sometimes sunk in a Bed, that they may be cherished with a proper Warmth; it is likewise customary to plunge them in the common Earth, that they may imbibe a certain Spirit which steams from the Ground, and is finely accommodated to Vegetation. They are afterward removed into the Shade, by which Expedient we are enabled to manage the Plants as we please, and may easily afford each Individual the Assistance it requires.

As to any other Attentions that may be necessary in the Culture of Flowers, you may inform yourself in this Place of all you desire to know. The Countess is extremely fond of these beautiful Productions, and I must not deprive her of the Pleasure of entertaining you on that Subject.

T H E
C U L T U R E
O F
F L O W E R S.

D I A L O G U E III.

The CHEVALIER. *The* PRIOR. *The* COUNTESS.

Countess. **T**H E *Chevalier* has chosen the Spring and our Part of the Country, for his Study of Nature; we must each of us therefore endeavour to contribute to his Instruction. My Province is the Care of Flowers, and I would willingly enjoy them through all the Seasons of the Year, in the Parterre as well as in my Apartments, and all my Deserts; and I must confess that, since I amused myself with their Cultivation, my House appears much more agreeable than it did before. I am sensible, by Experience, that gloomy Dispositions and undelightful Ideas are brighten'd into Gaiety and Joy by the Presence of Flowers. The Sight and Fragrance of one Jonquil is sufficient to dissipate a melancholy Cast of Mind; and it is hardly possible to assume an Air of Dissatisfaction near a Cluster of Jessamine and Roses. Sadness itself disappears at the View of such Objects as these. I have distributed Flowers into every
Part

Part of this Retreat, and have an infinite Pleasure in cultivating the most amiable of each Kind. This, Sir, is my Philosophy; and tho' its Aspect may be something rustick, it never fails to amuse me, and you are sensible it is not altogether insignificant. I will acquaint you, if you please, with three or four of its Articles, such as the Auricula, the Anemone, the Ranunculus, and the Carnation. The Prior will instruct us in the Cultivation of Tulips; but can you prevail upon yourself, Sir, to be contented with this Entertainment?

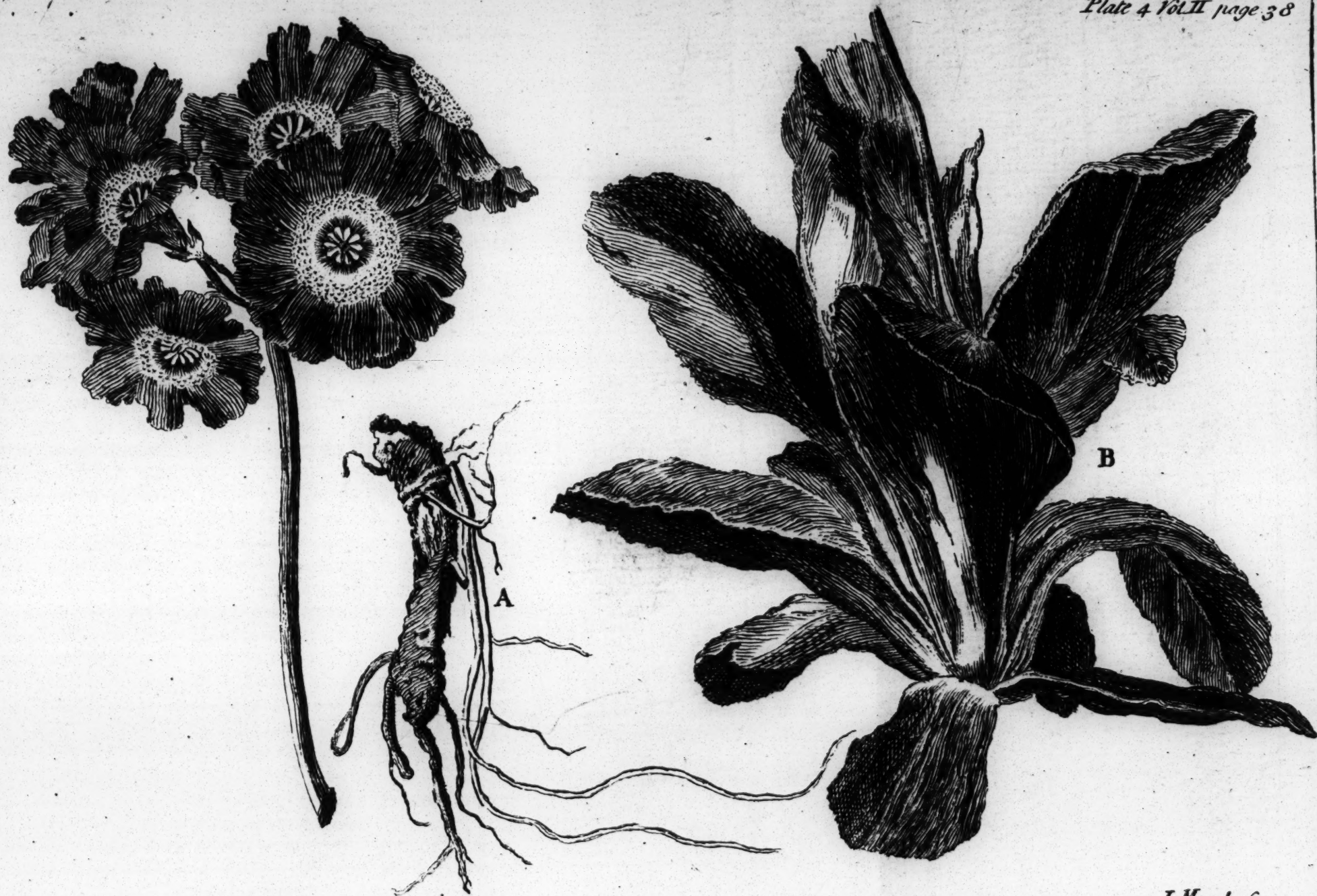
Chevalier. Contented, Madam? I really think it the most charming Philosophy in the World, and none can ever complain that it leads them into thorny Paths.

Prior. The most painful Philosophy would never displease me, if its Effects were always as valuable as a single Tulip.

Countess. Let us begin with Auricula's. We have here some of the Plants which produce those Flowers, and their View will enable us to understand them. This Flower has several Qualities which entitle it to our Esteem. We admire the Vivacity of its Colours, the Agreeableness of its Perfume, the Variety of its Kinds, and the Duration of its Clusters. And tho' the finest of the Species disappear before the Close of Spring, here are some that still preserve an engaging Aspect; and there are others which even continue to the Summer-Season. The Prior a few Days ago acquainted us with the History of this Flower; but the Country whence it originally came has escaped my Memory.

The History of the Auricula. *Prior.* The Auricula is a Native of the Alps, tho' several Persons believe it to be a Product of France, and assure us they have discover'd great Numbers of its Plants in our Meadows. They add, that some *Flemish* Merchants, delighted with the Lustre and Fragrance of these spontaneous Flowers, which they observed in their Travels, transplanted several of them to *Lisle* in *Flanders*, and were very careful of all those Productions that were most beautiful. It is not easy to be imagined, how much this wild and neglected Flower was diversified and rendered perfect by a due Cultivation.

Countess. It return'd from *Lisle*, to its Native Land, in all the Charms of Novelty, and we afforded it a favourable Reception,



J. Mynde sc.

The Auricula 11rifi or Bears Ear with its Root A. And green Foliage B. that encompasses the Flower.

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Reception, not only as it had the Air of a Foreigner, but because it was amiable in the utmost Perfection.

Chevalier. I should be glad to know what Qualities are necessary to render it complete.

Countess. We think it most agreeable when it enjoys a strong and substantial Stem; and when the Number of its Bells, which rise on that Stem, are large and diffused into a graceful Cluster, without inclining too much to the Earth.

The Qualities of
a fine Auricula.

Prior. It appears in that defective Position, as you may observe in this Plant before us, when the Pedicles which are the little Footstalks that sustain the flowery Bells, are either too long, or too slender.

Countess. The Flowers should likewise be large, well tissued, and regular in their Forms. The Forms of each should be very smooth, and their Colours of a lively Glow. The Chives should not shrink to the Bottom of the Vase, but ought to be disposed around its Opening, in the Form of a little Sun. They are very defective when the Pistil becomes visible, and the Chives are concealed. The Eye, which adorns the Bottom of each Flower-Cup, should be exactly rounded, unless it happens to be wrought into a perfect Star, which is not disagreeable; but it ought in particular to be large and white, or at least as clear as possible.

Chevalier. Are not these a Set of Modes that are variable? Perhaps the Flower may hereafter be thought more agreeable, were the Pistil to appear instead of the Chives; and it may possibly be esteemed more pleasing in proportion to the Smallness of the Eye, and the Moderation of its unfolding Colours.

Countess. That Suspicion has but little Probability. The Chives should rise from the Bottom to prevent the Appearance of a vacant Space, that will always disfigure the Flower: The Eye should likewise be large and clear, to give a Lustre to the prevailing Colour.

Chevalier. Are not the Stripes preferr'd to such Colours as are not varied with any Intermixture?

Countess. They were formerly in much greater Esteem than they are at present, but they are found by Experience to be least durable. The Stripe frequently drinks up all the Colour, by enlarging its Dimensions from Year to Year. The unblended Colours are more valued when they are strong

strong and radiant. Those that imitate the Gloss of Satin and Velvet have the first Rank allotted them by the Curious. A few Irregularities of Growth give them an agreeable Variety; you may observe some, whose Cups rise one above another, in two or three Stages; but this is rather an imperfect Arrangement, than any real Beauty.

Chevalier. Do not the Auricula's require a peculiar Soil and Cultivation?

Prior. It is certainly a voracious Plant, and must be rear'd in a strong Earth intermixed with Cow-Dung, to render it soft and oily; this Earth should likewise have a Proportion of Horse-Dung, or Sand, to make it light and pliant. The Flower loves a Freshness of Air, and cannot long subsist in the Sun-shine, especially at Noon, unless it be in the Winter-Season.

Beside the Method of raising it from Seed, it may be multiplied by Off-sets; or, in other Words, we may separate and transplant the little Shoots that spring from the principal Stem. Its Root, which is a kind of a Turnip, may be safely cut, when we cannot otherwise disengage from it the little Fibres, or Roots, that are necessary to each Off-set. When we have Recourse to this Operation, great Care must be taken of the Buds in the main Stem, which are the Hopes of the succeeding Years; and when we transplant this Stem, with its Shoots, the Fibre which connects the Root with the Stem must be always raised above the Earth.

Countess. Let us now proceed to Anemones,
The Anemone. for tho' their Season be far advanced, we have several of these Flowers that are still very amiable. They are satisfied with a light and sandy Soil, enriched with a Mixture of Compost: I don't find that our People afford them any other Preparations; and if they are but shelter'd from immoderate Heats and Colds, they generally thrive in a very agreeable Manner.

Chevalier. It is really an enchanting Flower, but I could be glad to know why it charms me to such a Degree?

Countess. Its Beauty results from the just Symmetry of all the Parts that compose it. The green
The Qualities of a fine Anemone. Leaves that surround it without, should be low, thick set, and finely cut; the Stem ought to be strong, in order to sustain the Flower, without bending under the Weight; the Head must be

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be elegantly rounded, and the Colours bold and radiant. All faint Hues in general are rejected. The large Leaves that unfold the outward Surface of the Flower, and are called the Robe, should neither be strait nor pointed, but round and spreading. The Tufts of small Leaves, that cover all the Flower within, ought to be formed into a Dome, by gently bending toward the Heart. The larger these Leaves appear, the more graceful they render the Flower; but when they happen to be sharp and narrow, the Anemone is disregarded, and degenerates into a Thistle. The slender Band at the Heart ought to differ in its Tincture from these Leaves, and should appear but little, or rather not at all, lest it occasion a Swelling, and it must never rise higher than the leafy Turf. When any such swelling is created, and if, by unfolding itself, it discloses either the Seeds, or the Tops that cover them, the Anemone is destroyed; for it then begins to divest itself from Year to Year of its inward Leaves; to whose Number and Substantialness it owes its chief Beauty.

It is not sufficient to be acquainted with fine Anemones, but it likewise requires Judgment, to form a beautiful Bed of these Flowers; in which Particular two Precautions are necessary. In the first place, we must give them a proper Intermixture, by disposing the Flame Colours after the Carnation; the White, the Violet-Hues, and the Bizarrs, should next appear and be succeeded by the brown, the striped and clouded Dyes. We should likewise be careful to cut off all the weak Stalks that appear on each Plant; by which means, a copious Nourishment will be imparted to the rest, and a thriving Vigour be diffused through the whole.

Prior. When the green Leaves that encompass the Flower begin to wither, the Roots should yearly be raised out of the Earth, and replanted in Autumn, or *February*; but lest any Accident should scorch and destroy what was planted before the Winter Season, it is usual to preserve in some dry Place, a large Number of these Roots which never shoot, in the Repository, like Onions, and are even good when they have been kept two or three Years. These, in the Spring, may supply the place of those whose Bloom is over.

Chevalier. I shall not forget this Precaution: But you speak of Anemones, Sir, as if they only appeared in the Spring, and yet I have frequently seen them in Autumn.

Countess.

Countess. One may easily secure an agreeable Succession of these Flowers, through all the Seasons of the Year. If we plant them in the different Months of Spring, we shall always have new ones, from the latter end of *June* to the end of Summer; and those we plant in *July* and *August*, will continue to embellish the close of Autumn, and the very heart of Winter. This is a Pleasure too easily attainable to be neglected.

Chevalier. Is it certain from whence we received the Anemone?

Prior. It has been constantly known among us, and is mention'd in all our old natural Histories.

Countess. The finest Anemones are not so ancient; and I have been told, that Monsieur *Bachelier*, a famous Florist of *Paris*, caused them to be brought to us from the *East Indies*, about fourcore Years ago. There are some People, who when they acquire any agreeable Curiosity, have a Pleasure in communica-

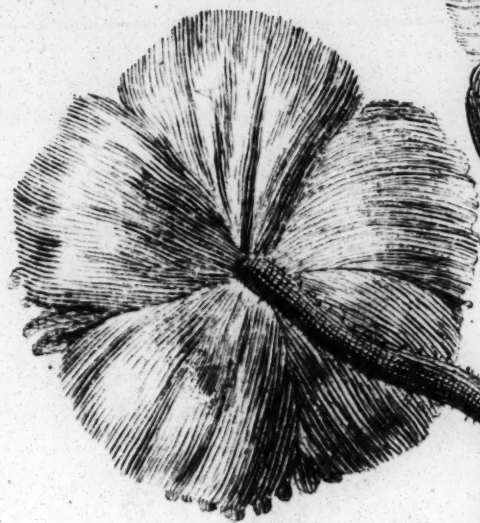
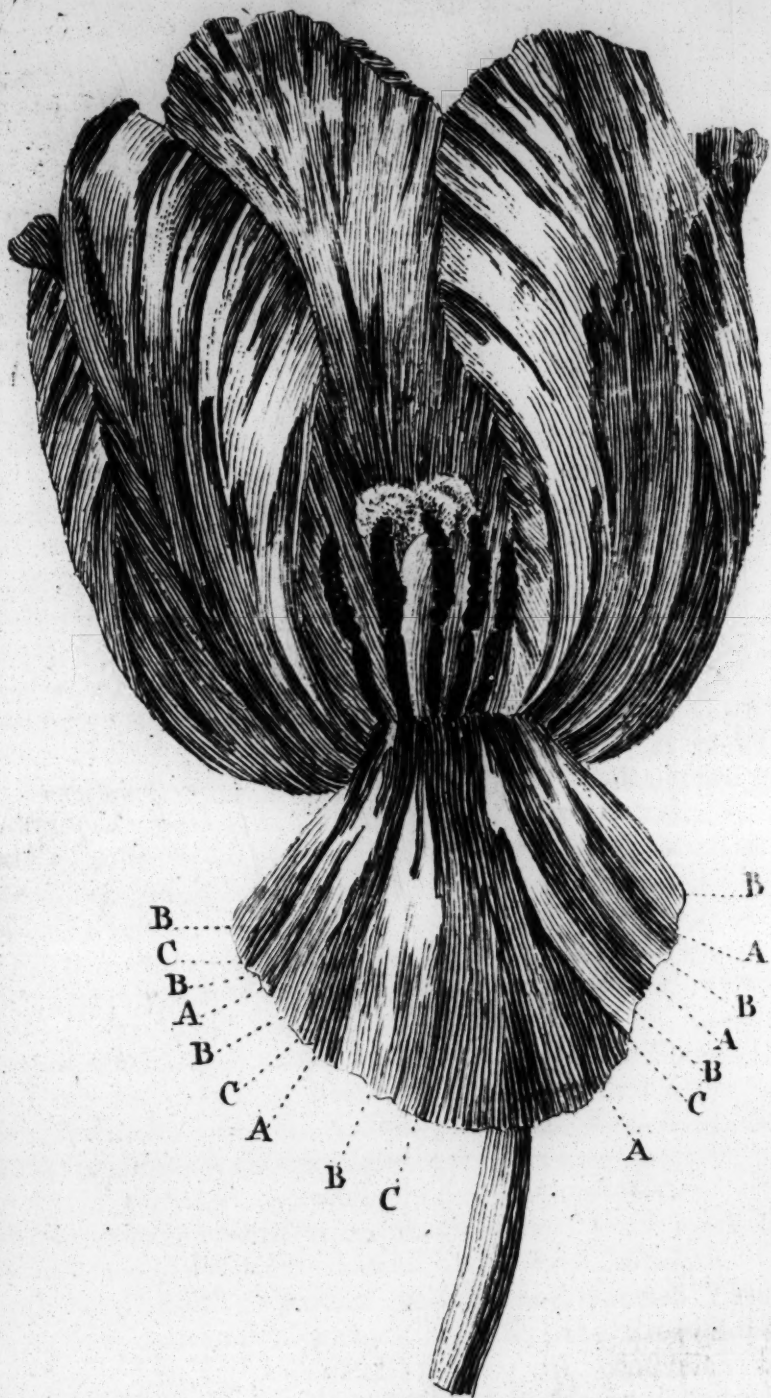
ting it to the Public as much as possible; This is an Instance of the noblest Disposition, and the *Chevalier* will undoubtedly be distinguished by it. But there are others who possess a Flower, or a Fruit, with as much Avarice as some People hoard up Money; which they can never bestow on others, without thinking it lost to themselves. This might possibly have been the Character of Monsieur *Bachelier*, for he lived ten Years without imparting, to any Person, the least Fibre of the double Anemones, or one Seed of the single Flowers. A Counsellor of the Parliament who was displeased to see one Man engross a Benefit that was qualified by Nature to be common, made him a Visit at his Seat; and as he past by his Anemones that were then in Seed, he artfully let his Robe fall upon the Down of the Flowers, and it swept off several of the little Grains. His Servant who had been instructed how to act, immediately caught up the Robe, and folded it over the Seeds that were fastened to it. The next Year, the Counsellor shared the Produce of his innocent Theft among his Friends, and by their Agency imparted it to all *Europe*.

Chevalier. The Anemones sustain some Disadvantage from that Bed of Tulips.

Countess.

The History of
the Anemone.
Fush Hist. Plant.
II. Paradiso de
Fiori.

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The Tulip.

- A. The predominant colour.
- B. The variegated stripes.
- C. The black rays, which facilitate the
dynam array of the colour in the stripes.

The Anemone.

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Countess. The Form of the Anemone is more delicate, but the Tulip eclipses it by the lustre of its Colours; and in this Particular it may justly be called the Queen of Flowers. The Prior has amused himself with their Cultivation, and is better acquainted with them than myself.

Chevalier. Here are several disposed into Beds apart from the rest: Are they separated in this manner because they are not so beautiful as the others?

Prior. Those Beds are the Nursery, and the Flowers they contain are called the Colours.

Chevalier. I am entirely unacquainted with that Term; and must intreat you, Sir, to favour me with its Explanation.

Prior. It is this. A Tulip may be multiplied either by its Seed, or else by its Offsets. The Seeds produce a little coated Root like an Onion, which must be replanted at the end of two Years, but it never blows till the Expiration of five or six. Its Production seems at first contemptible and indelicate, for it is only a large Flower tinged with grey, a Violet blue, or some other faint and gloomy Colour, and it rises on a monstrous Stem: But these Colours are afterward improved in a surprising manner, and will gradually unfold a splendid Variety. The Tulips that spring from the Seed are called the Colours*, till they are finely marked with some Stripe of a new Tincture. Those we receive from *Flanders* are distinguished by the Name of Wands, on account of the Strength and Loftiness of their Stem.

When they have been disearth'd and replanted for several successive Years, Tulips produced from Seed begin to break the Stripes, and are then called *Conquests*, or more usually *Chances*, because they are Beauties on whose Continuance we can never depend with any Certainty. A Series of Years, a Thinness of Soil, and repeated Transplantations gradually change, or fully the Predominant Colour. The Stripes therefore may be considered not as a Distemper, but rather as a kind of Weakness impart-

* They are called Breeders by our *English* Florists.

ed to the Plant, in Proportion as the Flow of Sap is more or less delicate: And this Effect corresponds, in a great measure, with the White and Grey that alter the natural Colour of our Hair, at the Approach of Old Age. There are some Heads, on which this Change has no unamiable Appearance; and it is frequently attended with peculiar Graces.

Off-sets.

The second Method of multiplying Tulips is by Off-sets, which are little coated Roots, that spring from the large one, and should yearly be separated from it. Those Plants whose Roots resemble an Onion, are commonly perpetuated by Off-sets of this Nature, which may be considered as the younger or collateral Branches of the Parent-Root: And while this exhausts its Vigour, and divests itself of all its Juices for the Nourishment of the Flower, the Off-set that is strongest, and most advanced, becomes the principal Root; and when we raise it out of the Earth, 'tis customary to disengage it from the others, which, when they are afterward replanted, will produce Flowers the second or third Year.

Countess. I think, Sir, you enable me to account for an Appearance that has frequently embarrassed me. When the Root of a Tulip begins to shoot, we see the Stem rise from its Heart; but when we take it out of the Earth, the withered Stem appears on the Side of the Root. I now can comprehend the Cause of this Circumstance. The Root that has been raised out of the Ground is not the same that was planted in Autumn.

Prior. The Substance of the Autumn Root is exhausted; and therefore the Stem, which originally shot from the Heart, must appear at the Side of the new Root, that has been formed from an Off-set. *M. De la Quintinye* has confessed in his Treatise of Instructions, that his Removal of the Stem from its first Situation was a Mystery that exceeded his Comprehension. Your Ladyship, therefore, is not the only Person to whom this Appearance has created some Perplexity, tho' the Fact be capable of a very natural Explication.

Chevalier. Be so good, Sir, as to inform me which of these two Methods of multiplying Tulips you think the best?

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Prior. The Tulips that spring from Seed are most adapted to afford you new Productions; but, their Multiplication by Off-sets is attended with two considerable Advantages; one of which is, that you are not left long in Expectation; the other, that you are always sure to be furnished with Tulips of the same Species with those that produced them; and if you are but careful to mark the Off-sets, and then dispose them in a Bed, with the same Regularity as you have placed them in your Register, you may intermix them in a fine Taste, and are able to range them with as much Propriety, as if you had already seen the Flowers.

Chevalier. What may be the Use of the little moveable Tent which I have frequently observed in the Gardens of the Curious?

Countess. It is placed on a Bed of fine Tulips, and either raised or lowered in such a Manner as may be most proper to shelter the Flowers from melted Snows, which sully their Lustre, as well as from great Rains, which are apt to crush them; and likewise from immoderate Heats, which shorten their vegetable Lives. The same Precaution is often useful to other Flowers, especially the double Hyacinth, and the Ranunculus.

Chevalier. Will you oblige me so far, Sir, as to acquaint me with the Qualities of a fine Tulip?

Prior. The green Tincture of a Tulip was once the Subject of various Rules; but, at present, its Appearance is always thought pleasing, when the Tulip is fine in other Particulars.

The Qualities of a fine Tulip.

Countess. This is the shortest Way of deciding its Merit.

Prior. The Stem is a kind of Pillar, that supports a Vase, and to which it ought to be duly proportioned. It is equally disagreeable, if it either exceeds the proper Height, or has not sufficiently attained it; or if it swells to an extreme Degree, or else appears too slender; and, perhaps, that Excess of Slenderness may be considered as its greatest Defect.

A large Flower-Cup is always more agreeable than one of a moderate Size: The Tulip is not allowed the least Merit when it happens to be extremely small, but we disregard it most when it is either flat or pointed. The Leaves should

Prior.

should never have an outward Slant downward, nor bend into a Dome within; but ought to be expanded with a regular and graceful Air. Instead of being formed into a Slope, or separated toward the Bottom, they should spread with an easy Freedom. Their Number must be always six, and each of them ought to be substantial and well tissued, that their Bloom may be the longer preserved.

The Chives appear best with a brown Cast, because it adds Force to the lively Colours of the Flower; but it is not material with what Hue the Pistil is tinged.

Countess. Let us now consider the real Merit of a Tulip; for, I must confess, that what I heard from several Persons, who would be thought very curious in this Particular, seemed to me so confused, that it really exceeded my Comprehension. One would imagine the Beauty of Flowers to be a Circumstance above the Capacity of common Minds; but if a moderate Share of plain Sense be sufficient to furnish us with this Knowledge, I shall be extremely pleased. Let us enquire then into the Properties of a fine Tulip; but if it should happen to be a Matter of Science and Study, I entirely renounce it, for my Part.

Prior. This Knowledge is comprehended in a few Particulars, which are very easy and natural. A Tulip produced by Seed has an unmixed and dusky Colour, in which it is generally very peculiar: One Class of them is Grey, another Red, and a third assumes the Blue of Violets; others are tintured like Cinnamon, Purple, Musk, and Gridelin; but we esteem those the most which have the least Similitude to Red. There are some, however, in this Colour, clouded with all imaginable Variety, and they produce very fine Effects in Time. The uncompounded Colour is intermixed in a few Years with several white or yellow Lines, which are often accompanied with black Streaks, and these are called the Stripes. The White is valued in Proportion as it resembles Milk; but it succeeds better, and is more esteemed in the *Netherlands* than among us. The yellow Stripe derives its Merit from the Perfection of its lively golden Dye, and thrives better in *France* and *Italy* than the White.

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The Colours in a Picture are blended in the greatest Perfection, when they soften into each other by insensible Diminutions; but they must always have a contrary Effect in a Tulip. The Stripe, instead of being imbibed by the Colour, should intercept it in an elegant manner, and ought to penetrate the Leaf, to render it more radiant.

Countess. All this I can easily comprehend.

Prior. The Stripe is much more amiable, and better distinguished, when it is accompanied with black Streaks, that make it rise more sensibly from the Colour.

Countess. Here are then three Qualities entirely different from each other; the principal Tincture of the Flower, which you only call the Colour; the white or yellow Streaks that divide it, and which you distinguish by the Name of Stripes; and, lastly, the black Lines that heighten the Appearance of the Stripe.

Prior. These are the whole Appendage of a Tulip, and their Arrangement is capable of producing an agreeable Variety. The Stripes sometimes disappear towards the Middle of the Leaf, and become visible again, with their black Lines near the Border. Some Persons are pleased to call this Disposition *the gay Dress*. The Stripe frequently traverses the Leaf in large Breadths with black Lines, some of which separate it from the Colour, in a curious Manner; others, instead of edging the Stripe, pass through it from one End to the other.

Countess. The Tulips in this Bed present me with all the Particulars you have described.

Prior. These Stripes, whether yellow or white, are frequently very broad; they are likewise as often narrow, and very much resemble a fine Piece of Embroidery. There are some Tulips whose predominant Colour is much more extensive than the Stripes; and there are others whose Stripes drink up the greatest Part of the Colour, a small Fringe of which is only visible, toward the Edge of the Flower.

A Number of Observations were formerly made on the Ground of Flowers. This Name is given to the small Flakes tinged with Grey, or a Violet Blue, and which are visible at the Bottom of the Flower, where they seem to form a little Star round the Foot of the Pistil. The finest Tulip was entirely disregarded, when the Stripes encroached ever so little on this Ground: But Experience has convinced

ced all true Judges, that these little Niceties, which were once thought so requisite, are altogether immaterial. Every Person favoured some particular Mode, and disliked the Flowers and Gusto of others. But what Prerogative have the People of *Flanders* to reform our Taste? And what Right have we to condemn theirs?

Countess. The Standard of Taste is not only varied with respect to Nations, but prevails as little in different Gardens. Instead therefore of all these arbitrary Rules, which only tend to impoverish the Minds of those who observe them, is it possible to have the Knowledge of Tulips reduced into a short, as well as an easy and intelligible Method?

Prior. I am far from prescribing any particular Method to others; but my Manner of Thinking is this: Wherever a Taste for amiable Nature prevails over the Jargon of Rules, I believe it will be always customary to value a Tulip, whose Stripes and Colour are very radiant, well contrasted and set off with Lines of a glossy Black, in what Manner soever Nature may have distributed these Intermixtures.

Countess. The Cultivation of Tulips has always been the Count's Amusement, rather than mine; for
The Ranunculus. they require more Attention than I can well afford them. But the Flower which I love to raise and multiply, as much as possible, is the *Ranunculus*.

Chevalier. Here are several Beds of them; but I am unable to judge which of them most deserves my Attention: they are all so remarkable for their Lustre and Variety.

Countess. I give the Preference to this Flower, because it degenerates less than the *Anemone*, and the Beauty of its Colours almost equals those of the Tulip; but it much exceeds in the Number of its Species.

Cheval. Which of them does your Ladyship esteem most?

Countess. The Red is counted the least valuable, because it is extremely common; and yet it affords a fine Mixture with those that are double. But as beautiful as these last may be, the semi-double are in much greater Estimation at present, and are every where ranked in the first Class. These before us are a Growth of them: They have but a moderate Quantity of Leaves, as you may observe, and they are a Medium, in this Respect, between the large double Flowers, whose



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whose Leaves are very numerous and thick set, and the single ones, which have hardly any.

Chevalier. I am at a Loss to conceive why those that are double should not be preferred to the others. Perhaps the semi-double owe their Merit to the Turn of the Mode that now prevails.

Countess. This Preference is not a transient Taste, and the Effect of mere Caprice; but is founded on the Variety of Colours, which has the Air of a Prodigy. A single Bed of the semi-double Flowers is at once an Assemblage of the pale, the citron, and the golden Yellows; the shining White, the mellow Red, and the Tincture of the Peach-Blossom: You may there behold a Variety of fine Grounds, such as the white intermixed with red Stripes elegantly distinguished; the yellow speckled with red or sable Rays: Some of these Flowers are rosy without, and white within. You will see a different Class, tinged with shammy, and border'd with red, and others growing with a crimson Ground. — But their Catalogue is endless, and new Species are presented to our View every Year. If the Love of Change be ever allowable, we may venture to admire it in Flowers; and if we can please ourselves in changing what we love, we must certainly love the *Ranunculus*.

Prior. It is qualified to regale all Tastes. The Root of a fine *Ranunculus* yearly revives and perpetuates the same Lineaments of Beauty; which is a pleasing Circumstance to those who are constant in their Friendships. The Seed of the same Flower produces a new one, from Year to Year, which is a Quality that must be agreeable to those who delight in Change, and they will here find a sufficient Variety to empy their Choice. I was acquainted with a Set of Florists, who began to dignify each new *Ranunculus* with the Name of some Person of distinguished Merit. One was called *King Stanislaus*; and another the *Czarina*: A third was *Marshal Villars*, and a fourth *Prince Eugene*: This was the Duke of *Berwick*, and that the Marquis of *Asfeld*. The *Ranunculus* that disclosed a Range of jetty Lines, or a radiant Ground, was named the *Roussseau*; but for what Reason I am uncertain. Another that unfolded a rosy Bloom without, and discovered an un sullied Whiteness within, was called the *Rollin*. One whose Speckles were so multiplied and thick set, that they rendered the

Ground on which they rose invisible, was the *De La Motte*. Another, whose rich Leaves were regularly embellished, in their Extremity, with a beautiful Stripe, was the *Fontenelle*. But our Florists soon discontinued this Practice; for when they compared the Number of Great Men, with the Diversity of these Flowers that were daily making their Appearance, they grew sensible that the Generality of them would be in Danger of continuing nameless.

Countess. The semi-double *Ranunculus*, with all the Advantages of an endless Variety that yearly changes the Decorations of your Parterre, has another Quality, of which the double Flowers are destitute: I mean, its Fertility in producing Seed; whereas the others are entirely unfruitful.

Chevalier. Is this Defect peculiar to the double *Ranunculus*?

Countess. The Generality of double Flowers in every Class are unproductive of Seed. They discover indeed the faint Sketches of a Pistil and a few Chives; but the Profusion of Leaves, with which they are covered, usually prevents them from ripening into Fertility: But when these double Flowers, for want of proper Culture, or from any other Circumstance, begin to be less luxuriant in their Leaves, the Heart of the Flower is disengaged from the Part where it was fixed; and as it then enjoys all the Impressions of Warmth and Air, it produces Seed like other Plants.

Chevalier. Is it known from whence this Flower originally came?

Prior. It is generally supposed to have been brought to us from *Tripoli* in *Syria*, several Ages ago. The History of and possibly in the Time of the Crusades the *Ranunculus*. But it was a very considerable Period before any but the double Flowers were cultivated. About thirty Years since some Seeds of the semi-double Flowers were brought to us from *Constantinople*, where the fine *Ranunculus* is very common. *Monsieur Valnay*, Comptroller of the Household, was one of the first who form'd a Bed of these beautiful semi-double Flowers; but what the Curious admired in the Years 1705 and 1706 in his Garden in the *Fauxbourg St. Germain*, would hardly be suffered now, in an ordinary Bed of the second Class. Such Discoveries and Variety have we acquired from the Seed of the semi-double Flowers.

Chevalier

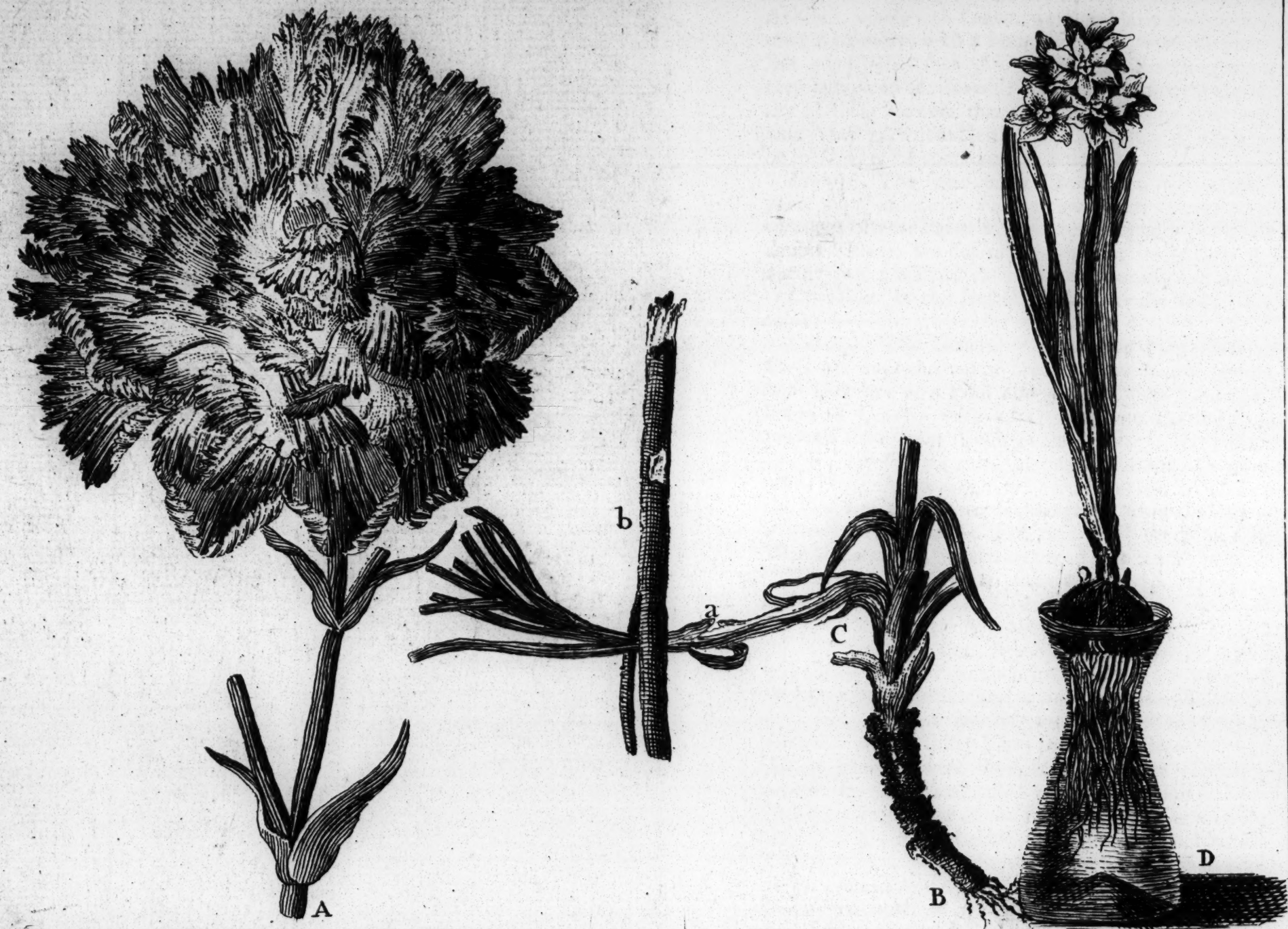
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A. The Stem of the Pignette speckled Carnation.

B. The Root.

C. A Layer. a. A Gash made by a Penknife in that part of the Layer which must be bent into the Earth to take root
b. A little forked stick to keep the Layer down in the Earth

A. Winter Garden. I. Mynde. sc.

D. The Lesser Oriental Narcissus

Chevalier. Are many Preparations necessary to their Culture?

Prior. This charming Flower, in order to present you with the most lovely Enamel that ever glow'd upon a single Species, requires nothing more than to be planted in a rich Earth, with a small Intermixture of Ashes, or rotten Wood; and to be shelter'd from Humidity and severe Colds.

The Culture of a Ranunculus.

Chevalier. Her Ladyship promised to entertain us with the manner of cultivating the Carnation, but did not promise to shew us one: And yet I observe several that are very amiable. This Sight, in my Opinion, is very extraordinary for the Beginning of May.

The Carnation.

Countess. There is one Method of tending them, which will cause them to blow each Month in the Year, Winter not excepted, and even in a Green-house.

Chevalier. It must then be the compleatest of all Flowers, since it wears the finest Array of Colours, is graced with the most delicate Shape; dispenses an aromatic Fragrance around it, and is attainable in every Season of the Year: But there are several Species of this Flower, and I should be glad to know which of them is most esteemed.

Prior. The Carnation, like the Tulip, has its Stripes formed in the strongest Opposition to the predominant Colour, into which they are never soft'en'd. But they must likewise be extended, without any Interruption, from the Bottom of their Leaves to their other Extremity. The large ones are much finer than the small, as they exceed them in the Number of their Leaves by one half, or four at least. The noble Spread of a Carnation forms a Circumference of nine or ten Inches, with a Diameter of about three. They are greatly prized when they have a Multitude of Leaves, because they form a more elegant Figure. It is much more graceful when the Head is beautifully rounded like a Tuft, than when it is only flat. Too great a Number of Spots would create a Confusion in the Flower; and were it too much indented it would seem jagged. When the Extremities of the Leaves, instead of being properly arched, are lengthened into a Point, they make a wretched Appearance; and this is the greatest Defect it can possibly sustain.

The Qualities of a fine Carnation.

As to the Method of raising and improving this Flower, no one understands it better than her Ladyship.

Countess. Carnations may be propagated either from Seeds or Layers. The Seed diversifies the Species of the Flower, and the Layer perpetuates those that are most amiable.

The Layer. The Layer should be planted in the Month of *July*, and not sooner, lest the Flower of the Stem should be injured.

Chevalier. This is an Operation of which I have not the least Knowledge.

Countess. Nothing more is necessary than to lay a Shoot in the Earth, leaving the Extremity above the Surface; but the Tops of the Leaves must first be clip'd, and a Gash open'd with a Penknife, half Way into the Joint that is intended to be sunk in the Ground; and then this little Branch must be kept down in its proper Place with forked Sticks.

When it has taken Root, as it will in a short Time, it must be cut off from the Mother-Plant; from whence it no longer ought to derive its Nourishment, because it is then Time for it to support itself.

When the Stem rises so high, as renders it impossible to bend the Shoot into the Soil, we cause it to pass through a Tin Funnel fill'd with Earth, and supported by a Wooden Fork. When the Branch has shot forth some little Roots, in the Funnel, it is cut off in its lower Part, in order to be placed in a Pot.

Prior. We may cause the Layers to shoot, by disposing them in Pots, in a Bed of moderate Warmth, and affording them an open Sun-shine, and frequent Waterings, which are the two great Promoters of Vegetation.

Countess. You seem'd a little surprized, to see large Carnations in so early a Season; but this Effect is produced by the manner of laying the Flowers, which may be always managed to Advantage, from *July* to the End of *September*. There are some Kinds, indeed, that naturally blow sooner, and others later; and we may easily obtain a good Number of both; but the surest Method of securing a Bloom of Carnations, for the greatest Part of the Year, is to have Layers three of the Summer Months, and they will flourish agreeably to the Time of their Procurement, either sooner or later. Some will unfold their Beauties in the Spring, others in the Summer, and a third Sort will only appear in Autumn. But

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those, whose first Sproutings are clipt, will present us with their Flowers in the Depth of Winter itself.

Another Method of multiplying Carnations, and producing those that are beautiful in a short Time, is to separate the Layers from the Stems of those Kinds that please us. The Layers frequently contain others, which are subordinate to them; and we strengthen the Parent-Plant, by relieving her from so numerous an Off-spring. The principal Carnation, no longer sharing the Sap with so many Competitors, gains greater Vigour, and assumes a more agreeable Appearance; while the Layers are likewise strengthened the sooner, and produce Flowers of equal Beauty, in a shorter Space of Time.

But when we separate the Layers from the main Stem, with a slender Root to each, we must be careful not to injure them, by such Wounds as may be destructive to the Parent and her tender Progeny. In all Operations there is an Art and Dexterity of Management, that results from Practice, and can never be acquired by the Knowledge of a mere Set of Rules.

Prior. Some curious Persons have attempted to multiply the Carnation by Stock-Grafting; and they assure us, the Experiment has succeeded to their Wish. We may, hereafter, give the Chevalier a proper Idea of grafting in this manner.

New Improvements, &c.
Vol. I.

Countess. Were this Practice reduced to any Certainty, with respect to Carnations, nothing could be more commodious; for we might soon cause the finest Classes of this Flower to spring from the most common Stem of a vigorous Growth. We might even carry the Improvement to a greater Height, and propagate different Kinds of Carnations all upon the same Stem; by which Means we could enrich any particular Vase with a natural Cluster of the largest Flowers varied in the most agreeable manner. I am determined to make the Experiment, since the Risk is inconsiderable; but I fear it is only a Flight of amiable Imagination.

Chevalier. Does the Carnation require any peculiar Composition of Soil?

Prior. It thrives to Admiration in *Flanders*, where the Earth is rich and oozy; but droops in *Provence*, and along our Southern Coasts, that lie in a scorching Climate, and

whose Soil is extremely light. We may therefore judge, that it requires a black, marshy and substantial Earth, with a small intermixture of Horse and Cow-dung to correct each other, and to prevent the Soil from being too compact.

Countess. When Winter approaches, we dispose these Flowers in a Green-House, where they faintly retain a kind of reluctant Life. It will be proper, however, to air and water them in mild Seasons, and after the ensuing *Lent* we may afford them all the Air we think requisite, but must be careful, at the same time, to preserve them from the Injuries to which they are obnoxious.

When the Carnation intended for the Theatre of Flowers begins to be unfolded, as it is only placed in that Situation to delight the View, great Care is usually taken to adjust its Array, and prevent the Disorders to which it is sometimes liable. It is apt to burst the Cup that contains its Leaves, and consequently the Flower will run out on one Side; to prevent which it will be proper to make equal Incisions, with a Needle on each Side, that the Petals may expand and fall in a swelling Round. It may likewise be sustained with a circular Collar of strong Paper, a Band of Thread, or a Ring of Willow-Bark, fixed about a third of the Height of the Spindle, with whose Colour it corresponds, and is therefore rendered imperceptible. It will likewise be necessary, at that Season, to water the Carnations every Day.

These are the five sorts of Flowers, which are the principal Amusement of those who are curious in Productions of this Nature: However they are not disregarding of the others, but raise such a Number as is proportionable to the Plot of Ground they possess. The Hepatica's alone, when those that are blue are properly blended with the red and white, are sufficient to afford a Month's Embellishment to the Verge of a Parterre, or a Court, when the Snows of *February* are melted. They may be intermixed with Cowslips that spring in our Meadows, and whose Culture affords great Variety, and may be rendered very ornamental. The Narcissus, the double Violet, the double Hyacinth, the double and single Jonquils, the red and white Sow-bread, and even Daisies, when they are well-

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chosen, produce agreeable Effects, either when they are ranged into their separate Families, or intermixed in the same Bed, every one declares in Favour of Julians, which I would call the Balm of our Gardens; and they are capable of being multiplied with the greatest Facility.

Chevalier. I am unacquainted with this Method of their Cultivation.

Countess. When the fine Clusters of the Julian have finished their Bloom, it is usual to cut and shorten the Stems and Branches by which those Clusters were supported: They are then fixed in the Earth a-new, without any other Preparation; and all these Branches will afford you as many new Stems, provided you plant them in a rich Soil, renewed from Year to Year, and without any Intermixture of Horse-Dung. But if this Method of Cultivation be neglected, they will soon degenerate, as is commonly seen at *Paris*, where this Flower seldom appears in its proper Beauty.

Chevalier. I should think the Stock-Gilliflowers merit a more peculiar Care, because we enjoy them for a longer Season. The yellow-double, which is exquisitely fragrant, presents us with all the Lustre of Gold. Those that are either striped or tinged with White, Red, or a Violet-Blue, rise with stately Heads, and diffuse a most agreeable Odour.

The Stock-Gilliflowers.

Countess. I am not for blaming the Curiosity of those Persons who cultivate foreign Plants; but neither *Peru* nor the *Indies* can regale us with any Productions that exceed a fine Stock-Gilliflower; and I believe it is such an Object, as even the *Indians* themselves would behold with Admiration and Envy.

Prior. We have not taken any Notice of the Class of Poppies, or of double Corn-Roses. These Flowers are only multiplied by their Seeds, which yearly produce such Beauties as are capable of delighting even those who are fondest of Novelty.

Countess. I am uncertain whether they ought to be considered as a Model, or a Reproach to Painters and Embroiderers.

Chevalier. There is one Flower, which, in my Opinion, displays more Lustre than any we have yet mentioned,

and is the finest Embellishment of a large Garden. I mean the Lily.

Prior. Wisdom itself has uttered its Panegyric, and preferred it to all the Purple and Splendor of the most magnificent Kings.

Chevalier. Can you observe, Sir, any Resemblance between this Flower and the Lilies in the Arms of France?

Prior. The upper part of a Leaf of this Flower seen in its full Width, and the two adjoining Leaves, viewed in profile, seem to have some faint Similitude with the Top of a Flower de Luce, but this Similitude must be aided by some Historical Conjecture.

Countess. We are apt to lose the View of Nature, the Moment we quit the Garden. Why is the Name of a Lily given to a Figure that resembles it so little?

Prior. It is very probable that these three small Leaves constituted the original Flower de Luce, or that kind of Flourish which usually appears in the Crowns, and frequently rises on the Extremity of the Sceptres, in the Monuments of the second Race of our Kings. *Lewis* the Seventh, surnamed the Young, and who was one of the Princes engaged in the second Crusade in the twelfth Century, distinguished himself, as was customary at that Time, by a particular Blazon, and formed his Coat of Arms with this Flourish; the Supporters were a Repetition of the same Flower in little: And as the People generally contracted the Name of *Lewis*, into that of *Luce*, it is very natural to believe that this Flourish came by these Means to be distinguished by the Name of the Flower *de Luce*.

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THE
APPENDAGES
TO A
PARTERRE.

DIALOGUE IV.

The COUNT, *The* CHEVALIER.

Count. **T**O what Use, Sir, do you intend those little Tiles, which you are ranging with so much Application?

Chevalier. Will your Lordship be so good as to read the Inscriptions on them?

Count. The Mountain-Lily, the *Calcedonian* Iris, Gold-Buttons, Fox-Gloves, Florets of Knap-Weed. — I find, Sir, you have been making a Catalogue of Flowers?

Chevalier. I daily hear the Names of several that are Strangers to me, and frequently see others that I know by Sight, but am unacquainted with their Names. I have therefore fixed a little Ticker to the Stem of each Plant, and I call them by their Names as they present themselves to my View when I am walking alone; but whenever my

Memory happens to fail me, I immediately refer myself to the Inscription, till I learn to distinguish them by their Leaves.

Count. You must compile a Book then of all my Garden; since the Precaution you have already taken will be equally necessary for a multitude of other Plants that adorn this Spot of Ground; but I will endeavour to render them familiar to you. A Parterre is not sufficient to complete a Garden, and it requires a Variety of Appendages; such as flowering Shrubs, green Alleys, verdant Arbours, with an intermixture of Palisades and Groves.

The first Appendage to a Parterre is a Growth of the large flowering Shrubs, together with those of other Species, and to these may be added a Variety of foreign Plants. As the Number of flowering Shrubs is not very considerable, their Deficiency may be supplied by large annual Plants.

Chevalier. I suppose your Lordship means those whose Stems are entirely decayed at the Year's End, or a little after.

Count. The very same, Sir, and we always make Choice of such as rise in fine Pyramids, whose luxuriant Leaves are crowned with rich Clusters of Flowers. These Qualities render them proper to cover a large Vase, and beautify the extended Plots: Such, for Instance, are the Julians, Stock-Gilliflowers, Lilies, Pyramidals, Indian-Pinks, Amaranths, Stork-Bills, and a Variety of others, with which you are sufficiently acquainted. The Belvederes are likewise as serviceable, though they are unproductive of Flowers.

The flowering Shrubs are the common, as well as the *Persian* Lilac; the Orange, Citron, and Pomegranate Trees, the Jessamine, and Rose Plants, with several sorts of Laurel.

Chevalier. I know a Number of Gentlemen, who desire no other Parterre, than a few Beds garnished with these Trees

Count. These stately Plants are more ornamental to a Garden, than the Generality of those that are esteemed by curious Florists, and which Nature has painted in Miniature,

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niature, because they are only intended for a near View : Whereas the others are drawn with larger Lineaments, and rise in a more simple Form. They are likewise multiplied with Profusion on the same Stem, and have usually but one Colour, which with the branching Verdure that sustains them, gives them an amiable Appearance, even in a distant Prospect, and renders them a noble Decoration to a spacious Plot.

Chevalier. I doubt the pleasing Array of these Plants is too transient; but we are not so much limited in the Cultivation of Flowers, because we may enjoy them in regular Successions.

Count. We may likewise be accommodated with flowering Trees, for the greatest Part of the Year, and with a Number of agreeable Variations, when the *Laurus Tinus* has performed its Part, in the last Months of the Winter Season, and even to the Return of Spring; it quits the Scene and is succeeded by the Lilacs, which we intermix, by disposing Boxes of the white and blue Clusters, in alternate Ranges; and you may observe their Effect through the Length of this Terrass. These are the immediate Predecessors of the *Gelder-Rose*, the Honey-Suckle, the common Jessamin rising on Stems, or rounded by Hoops, into the Form of a Vase; the *Spanish Broom*, and the *Persian Lilacs*, with the yellow Jessamines, and those of *India*, *Arabia*, and *Catalenia*, which continue flowery for several Months, notwithstanding the daily Tributes they tender to each new Visitor who approaches them. The same Season delights us with the balmy Fragrance of the Orange-Flower, and the rich Purple of the Pomegranate. We shall afterwards be regaled through the whole Autumn, with a Combination of the softest Colours, resulting from the blendid white and red of the Laurel Rose.

We may intermix the flowering Trees with a Variety of Shrubs that are in great Esteem either for their unfading Verdure, or the refreshing Odours they dispense. Of this Class are the Myrtle, the Rosemary, the Orach, with the Trees of *Saint-Lucia**, Yew, Cypress, Cherry-Laurels, and an endless Diversity of other Species. The Holly-

* A Species of Cherry-Tree, of a pleasing Scent, and a very agreeable Flower.

'Tree itself, as jagged as it appears, is render'd worthy of a Situation in our Gardens, by its undecaying Green, and the admirable Vermilion of its Berries, which delight the View in the Depth of Winter.

Chevalier. Your Lordship has not taken any Notice of Rose-Trees, and yet they make a very amiable Figure in the Garden.

Count. I am far from disregarding them, and indeed they are as valuable as all the Variety of Flowery Shrubs. Those we procure from foreign Parts, at a great Expence, have no real Superiority, and perhaps are not comparable to the Beauties of a regular Succession of our native Rose-Trees, when they are cultivated in a proper manner. There are more than fifteen Species of Roses, as well the single as the double; the white, the Yellow, the crimson and the striped: And besides the Facility of diversifying their Colours, by the Intermixture of the several Kinds; we may obtain this Variety on the same Stem, and produce a Bloom of five or six sorts of large Roses, entirely different from each other, by the Operation of Grafting.

We may raise them, if we are so disposed, by lopping off the Shoots that sprout from the Stem; but the most important Circumstance in their Culture is to allow some of the Buds to spring, while we retrench the rest, and to moderate the Growth of the Trees, some more and others less, by which means the Buds will unfold themselves in Succession; some at the close of Summer, others in Autumn, and the rest in the Winter Season itself. Nothing can be more easy and natural than the Method of prolonging this lovely Flower.

Chevalier. I begin to be sensible, more than ever, that the most common things are in reality the most amiable; and that we are under no Necessity of being anxious after scarce and foreign Productions, for the Gratification of our Curiosity.

Count. It will be sufficient if we make an orderly Disposition of what Nature has placed around us; and this Truth will be rendered still more evident to you by the other Embellishments of our Gardens. Let us only allow all the Luxuriance of Growth to the Linden, the Hazel, the White-Thorn, the Fruit-Trees, and every other Plant that rises before us, and we shall soon be lodged like
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the Lions and Tygers of the Wilderness. We shall see ourselves surrounded with thorny Bushes and glooming Thickets. But, on the other hand, let us bestow the least Arrangement on the Products of Nature, and our Habitations will quickly be changed to a verdant Paradise.

Common Reason inclines us to clear the Front of our Apartments from whatever would darken them, or intercept the View; and when we open a Plot of Ground of a reasonable Extent, it is but natural to dispose it in such a manner as may amuse the Sight with some agreeable Object. To this Intention we may refer the Origin of Parterres, and the easy Delicacy of the Ornaments that compose them. But I must likewise observe to you, that a Parterre, which is only an open Level, ought to be set off by Objects of a different Cast, that mutually contrast one another, and rise on each Side, either to terminate or diversify the View, or to furnish us with some other Accommodations.

The Disposition of these Appendages requires a more accurate Taste than the Parterre itself; and I will now represent to you, in a few Words, the Design of the several Pieces, together with the Plants that compose them, and the proper Method of ranging the Whole. We will begin with the Alleys.

Alleys are either planted or open. Those of the latter Kind are extended in a level Surface, edged with Borders of Box, and covered either with Sand or Turf, formed into an agreeable Walk, round the Parterre.

Those of the former Sort are either bordered with large Trees, or with Plants, disposed in Boxes. Some are covered, to render the Enjoyment of the fresh Air more commodious; others are entirely open at the Top. They are sometimes calculated to improve the Prospect of the Country; and this, if possible, ought to be the Effect of the Alley that fronts the Building, and corresponds with the Middle of the Parterre; some are qualified to direct the Eye to a pleasing Object; as you may observe in this before us.

Chevalier. The two Towers of the Monastery, which form the Point of View, seem as if they were built with an Intention to embellish it.

Count.

Count. The main Alley, which usually opens at the end of the Parterre, is sometimes accompanied with two Counter-Alleys that are less spacious. When that happens to be the Disposition, the Alley in the middle is always composed of large Trees, whose Tops are cut even with each other, while their Trunks rise in the open Air. The Counter-Alleys may be closed on the right and left with two large Ranges of Palisades or verdant Walls.

Chevalier. I observe that all the Trees in the two Alleys which accompany your Lordship's Parterre, as well as in that which opens through the Wood fronting the Castle, are of the same Species.

Count. They are all broad-leaved Elms, and no other Trees are so complete and uniform in their Foliage.

Chevalier. Is not the Lime usually chosen for fine Alleys?

Count. I must confess the *Indian Lime* is rendered very ornamental by its lively Green; together with the large Clusters of its Flowers, and its amiable Head: It is likewise a Tree of a sudden Growth; but then it is subject to the Depredations of a Caterpillar, that yearly destroys the greatest Part of its Verdure in the midst of Summer. I may add too, that it always soils the Walks, and drops its shaggy Pods, when it shades its Flowers at the close of Spring. It is likewise divested of its Fruit in Autumn, and resigns all its Beauties at the Fall of the Leaf.

Chevalier. These are sufficient Reasons for our disregarding it: But is its Place only to be supplied by the Elm?

Count. Besides the two Species of Elms we enjoy, the one with small, and the other with expanded Leaves, we may plant our Alleys with the Plane, the Maple, and the Linden Trees: Some Persons likewise chuse the *Egyptian Thorn*.

Chevalier. I am well acquainted both with this Plant and the Plane-tree; and have often gathered Flowers of an admirable Fragrance from the former. The Plane has a spreading Leaf shaped like a Star.

Count. The Fate of the Plane is greatly changed. The *Greeks* and *Romans* prized it exceedingly for its grateful Shade, and were

The *Egyptian Thorn*.

The Plane.

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The Indian Acacia



The broad leav'd Elm

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The Plane Tree

I. Mynde sc.

were much delighted with enlarging its Head, and forming a spacious Dining-Room in the midit of its Foliage. They planted it in their Gardens and the Avenues to their Country-Seats, as well as in every other Situation; and I suppose you have read *Horace's* Complaints of their Partiality to this Tree.

* *Our pompous Piles will leave us now
Few Acres for the foodful Plough;
Canals of Art are stretch'd around,
More spacious than the Lucrine Bound;
And unproductive Planes invade
The injur'd Elm's prolific Shade.*

Chevalier. I remember them very well; and that Great Poet thought it strange that the Plane-Tree, which only affords an unfertile Shade, should be propagated more than the Elm, which may be render'd advantageous and fruitful, by espousing it with the Vine.

Count. The Plane is very little used, at present, in our common Gardens; and we give the Preference to the large Maple, whose Leaves have a great Resemblance to those of the Plane. We are still better accommodated by the lesser Maple, the Yoke-Elm, and the Linden in particular; because it is not only a Tree of a speedy Growth, but it assumes all Shapes with the greatest Pliancy, and adapts itself to every Soil. We may likewise ornament the lower Part of this Tree with large Bushes of Yew, or with Rose-Trees formed into Vases, or inverted Bells. The Linden Stocks which rise into the Air with round Heads, resemble the long Rows of Orange Trees in Boxes.

Chevalier. When these Vases are all covered with Roses they must form an enchanting View, in an Alley where they are thus disposed.

Count. We may make greater Improvements still. As it is not usual to accompany Parterres with Trees of lofty Stocks, unless the Gardens be very extensive; we may ei-

* *Jam pauca aratro jugera regiae
Moles relinquent: undique latius
Extenta visentur Lucrino
Stagna Lacu: Platanusque caelebs
Evincit Ulmos;*

Carm. l. 2. Od. 15.

ther

ther in the Middle, or on each Side of the large Alleys that border the Parterre, plant straight Lines of Dwarf-Lindens, whose Stems must be contracted in their Ascent, that their Sides may shoot out. These Plants may be cut into the Form of square Boxes, and we usually place in the Centre of those verdant Vases a large Panier of tufted Flowers, or the blooming Head of a Rose-Tree.

Chevalier. I see this Disposition has been observed in the two Wings of the grand Parterre. The Prospect is not limited by these pleasing Alleys, and they diffuse an Air and Magnificence through the whole Garden.

Count. This is a Pleasure that did not cost me a Length of Time to procure its Enjoyment, and it likewise saved me the Expence of rich Vases, and timorous foreign Plants; which we can only venture to expose to the Air in fine Weather. I am for those Productions that spring in our Climate, and which we may shelter from the severest Frosts, by a slight Covering of Straw.

Chevalier. I admire the light and elegant Form of those Bowers, that so agreeably terminate the View on each Side.

Count. Bowers and verdant Halls are capable of various Embellishments; and we intermix them with the Honey-Suckle, the Jessamin, the Yoke-Elm, the Linden, and even the Ever-Greens. These pleasing Retreats had formerly a melancholy massive Air. The Stems of the Plants that formed them were frequently bare, and their Sides had a withered Aspect, because their Vegetation was checked by an injudicious Carefulness to cover them in every Part. The present Taste is in Favour of Bowery-Works uncovered at the Top, and entire opened on the Sides in the Form of Portico's, or bending Vaults sustained by green Columns of a delicate Lightness of Shape. We may there enjoy a more salutary Circulation of Air, and every Part of the Verdure is nourished with less Difficulty, because the free Passage of the Air and Sun-Beams renders the Leaves equally strong and lively both above and below.

Chevalier. The lower Parts of the Palisades are undoubtedly disfigured by an Excess of Shade and Scarcity of Air.

Count. Their Height should never equal the Breadths of the Alleys they border; and when the Trees that frequently crown them, have their Tops cut into a regular Level,
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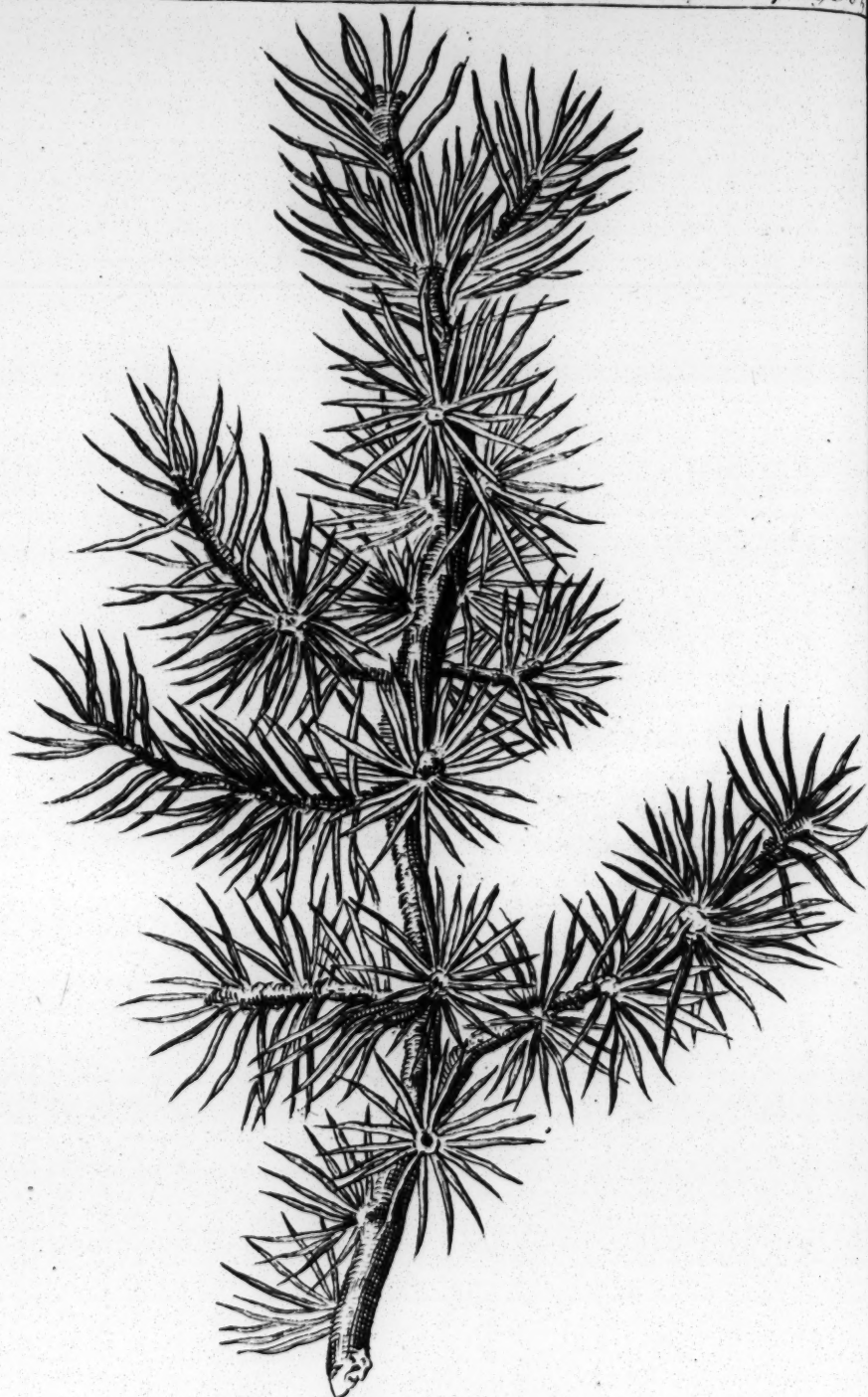
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The Cypress & its Fruit



The Cedar tree

J. Mynde

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The Fir Tree

The Cone of the Fir Tree

The Yew Tree

I. Mynde f.

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A

A. The Leaf of the Holly.
B. The Variegated Holly.



B

The Holly.



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D

C. A young Sprig of the Holly and its Berries.
D. The little Holly.

I. Mynde sc.

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and are every where disposed into a lightsome Spread, they form a real Wall of Verdure, whose Foundations seem to be laid in the Earth. They then become the most agreeable Ornaments of Gardens, and regulate their whole Architecture.

Chevalier. Is the small Yoke-Elm the only Tree capable of assuming this Figure?

Count. The lofty Palisades, as well as those that are Breast-high, may be formed of Lindens, Elms, Beeches, and Hazels; but you must only employ the Species from End to End; because the want of Fraternity in different Sorts of Foliage is disagreeable to the Sight, and causes improper Vacancies. The lesser Maple has one Advantage, which proves a commodious Resource in Gardens already formed; and where some Reparation may be necessary. For it grows in the Shade, and fills a Vacuity better than any other Plant. However, the small Yoke-Elm undoubtedly produces a more amiable and lasting Verdure.

The low Palisades may be made of Myrtle, Yew, Laurel, Privet, Hawthorn, and even Pomegranate-Trees, if you are desirous of Magnificence.

Chevalier. A Palisade of Pomegranate-Trees must surely seem all in Flame, in their flowering Season.

Count. If we have any Inclination to conceal either the Walls or Plots of Grounds that are useless and irregular, or not much favoured with the Rays of the Sun, and which present us with no agreeable Appearance; we may form a Palisade, or some other Figure, of those Trees that thrive, with a constant Verdure, in the coldest Places, and can always be drawn into an Extent of the finest Tapestry, over each unpleasing View. Such, for Instance, are the Yew, the Ever-Green Privet, the Rosin-Tree, the Cedar, the Green-Oak, the Box, the Holly, and the Ivy.

The Ever-Greens may likewise be employed in forming those Portico's and Palisades that are to bound the View, from any particular Apartment; and we find them so very agreeable, that their Verdure is frequently imitated by painted Wood.

Chevalier. Those who enclose their Gardens with an Embellishment of this Nature, have no Cause to be apprehensive of the Fall of the Leaf.

Count. Every Person has a particular Taste, and nothing ought

ought to be more unconfined. But when we enter a Garden, we naturally expect to find a real Verdure ; as when we visit a Library, we don't suppose we shall be entertained with painted Books.

Chevalier. If your Lordship thinks the Portico's of colour'd Wood, unfurnished with Leaves, so improper, what is your Opinion of those Persons who crowd their Gardens with Marble, and a Variety of gilded Gaieties ?

Count. Those Ornaments may possibly be very fine, but I am not certain whether they suit with such a Situation. The Taste perhaps in *Italy* and *France* prevails too much in Favour of empty Vases, uninstruative Statues, and Columns without Architrave. But all these insignificant Pieces are still less valuable, when they are substituted in the Room of that natural Verdure which so delights our View, and is the chief Subject of our Curiosity in a Garden ; and I am as little desirous of meeting with Marble Sculptures, Portico's, and Colonades, in such a Place, as I am to see a Parterre of Turf in the Area to an Apartment, or a branching Alley of Trees in a Gallery.

Chevalier. I have been sometimes told, that a Garden is an Imitation of Nature ; that the Alleys and Parterre resemble the Plains ; that the Terrasses represent the Mountains ; and that Rills and Fountains correspond with the Sources of Rivers ; that we are likewise permitted to blend some Embellishments with our Imitations ; as an Alley is more agreeable than a large Road ; a Terrace seems better disposed than the Slope of a Mountain ; and a Cascade flows more refreshing to the Sight, than a Stream that gushes from a naked Rock.

Count. These Sentiments are very just ; but you must permit me to observe to you, that a Garden is not so much an Imitation of Nature, as it is Nature itself presented to us in a near View, and adjusted by the Aids of Art. I have an Inclination, for Instance, to take the Air, and am accommodated for that Purpose with a little Plain, and a Length of open Alleys. I am disposed to view the Productions of Nature, for some Moments, and am accordingly regaled with a Growth of Flowers and Plants rising before me, and ranged in such a manner, that the Prospect of the one is not intercepted by the Appearance of the other, I wish to vary the Point of Sight, to be covered from the Wind, and to enjoy
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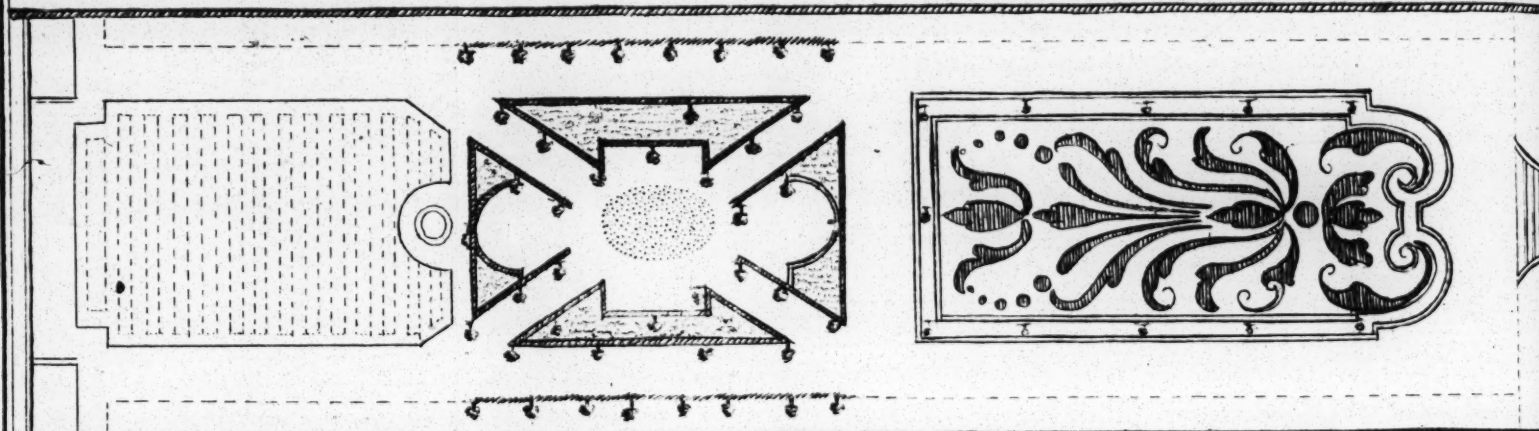
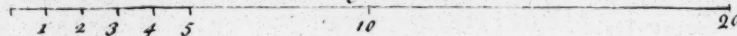
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A Scale of 20 Fathoms



A Long Plot of Ground
divided into Parterre, Wilderness and Kitchen Garden.

J. Mynde sc.

a serene Solitude, without excluding others from the Use of my Garden. The Terrasses afford me all these different Advantages: Shade and Freshness are equally desirable, and I am supplied with those gratifying Pleasures, by improving the other Pieces with a beautiful Thicket and a limpid Flow of Water. The Art which forms our Gardens does not consist in counterfeiting those Objects, or amusing me with a vain Perspective; a Succession of Arcades in green Boards; the View of a Hall incrusted with Marble; or the Sight of some *Naiad* reclining on her Urn with a graceful Air, and on the Verge of a *Bason* perpetually dry. The meritorious Effect of Art is to assemble the Water and Verdure in Reality; to facilitate my Walking, and shelter me from injurious Airs. Art therefore is not the Imitation, but the Arrangement of Nature; and borrows from her alone each Pleasure it presents to my View.

But let us render all due Justice to Art, since it dispenses a graceful Symmetry to its Assemblage of natural Productions. A curious Proprietor of a Tract of Ground is frequently obliged to form a Garden out of a Plot of Land, whose Length is greatly disproportion'd to its Breadth. But all the Irregularity of that Figure is rectified with the greatest Ease. He divides the Whole into three oblong Squares; the first of which he forms into an agreeable Parterre, and disposes the last into a fine Olitory. The middle Compartment he appropriates to a Grove, which, by rising between the Divisions in each Extremity, breaks the View of that disagreeable Length. The Grove is traversed from Angle to Angle, by Tracts formed like *St. Andrew's Cross*: Its Inside is embellished with a verdant Hall, and its outward Ornaments are two bowery Cabinets, or green Niches; one of which fronts the Parterre, and the other is opposite to the Olitory: The whole Prospect has an Air of Proportion; and two Alleys, by running parallel with the Walls through their whole Extent, form long Walks, and a free Communication with three different Gardens.

Another Person possesses a more spacious Plot, but triangular in its Form, or perhaps more irregular. This he distributes into different Divisions, which are rendered agreeable by their peculiar Beauties and corresponding Air. His Parterre will be border'd with two large Palisades; one of which will form the outward Bound of a spacious Wood, inter-

intersected with a Variety of Alleys; the other, by being crown'd with Trees of equal Loftiness seems to present us with a second Thicket, in a different Taste; and we imagine it to be equally extensive with the other, though in reality it is no more than a Range of Verdure without depth, whose Function is to shroud a Wall, that limits the Plot in that particular Place. Art therefore not only enlarges an Extent of Ground, but unites the most dissimilar Parts, by elegant Connexions, and conceals their natural Irregularity, by the constant Appearance of Symmetry. The extreme Parts of the Garden, that seem lost behind these regular Lines, are capable of being formed into Orchards, Nurseries, Plantations of Fig-Trees, and Beds for Melons.

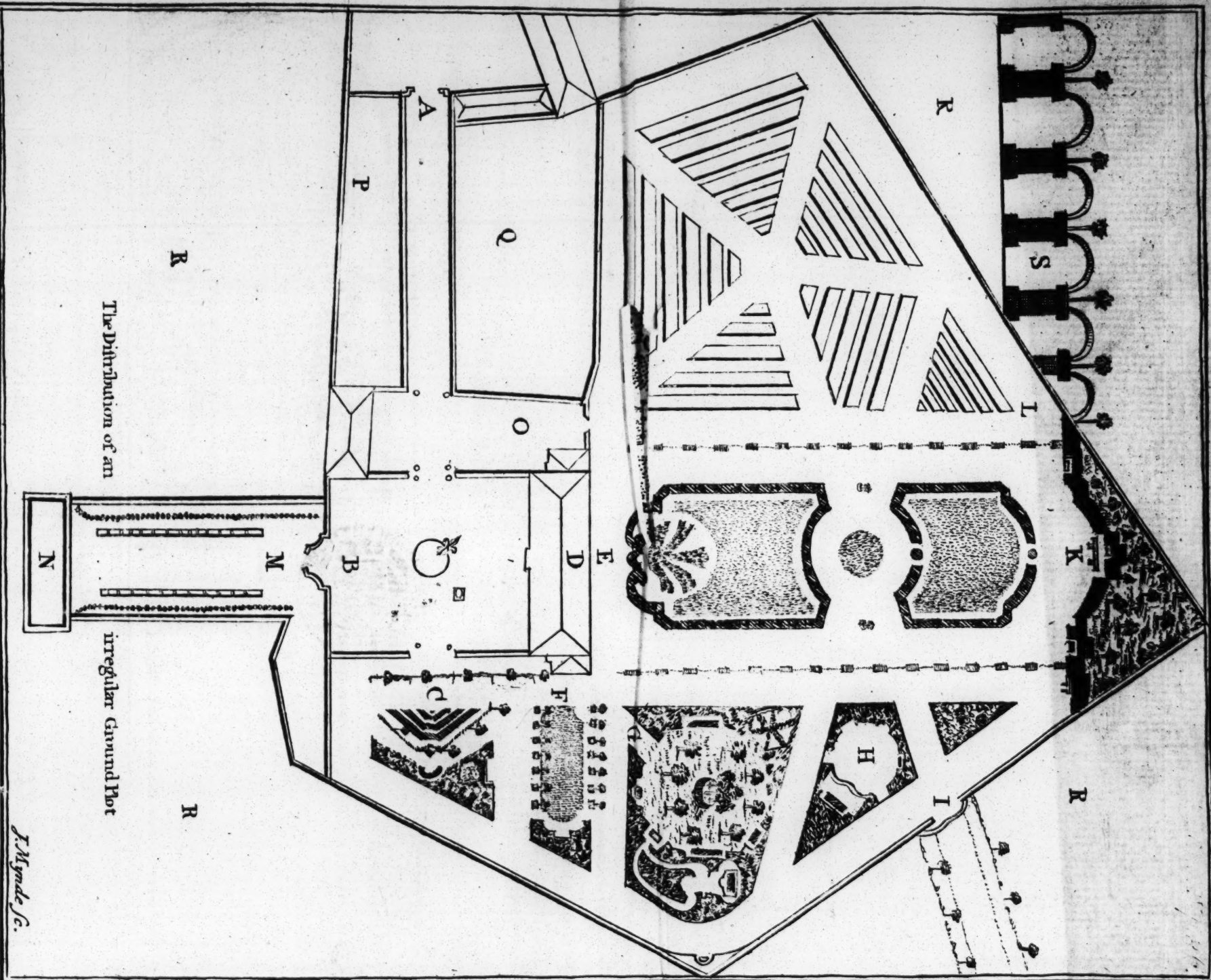
It undoubtedly requires no common Dexterity or Thought, to complete all the beautiful Divisions of a Garden, in Detail: To smooth one part, for instance, into a Level; to sink another into such a gentle Declivity, as will afford a trickling Flow to Rains, without rendering the Walk incommodious; to trace out the true Dimensions of a Parterre; to spread a uniform Surface of Turf; to conduct the Passage of a Stream; to extend the Alleys in streight Lines; to round the Arbourets; to strike Vista's through a Wood, and improve the Prospect all around. But the great Secret of Art consists in a true Taste of Nature, and a Capacity to improve her Gifts, and render the whole agreeable and engaging by a just Disposition of the Parts.

A small Plot of Ground admits of nothing more than a Simplicity of Design, and a Propriety in the Execution. But when the Extent of Land is very spacious, and breaks into a number of Inequalities, a great Genius will improve the whole, and can even cause the Irregularities of Situation to diffuse an Air of Novelty in every Part, and prevent the Appearance of a disagreeable Uniformity. He will not suffer the whole Extent of his Garden to be lavished in one View, but will exhibit for the first Object a large Compartment richly array'd with Flowers, and improved by fine Pieces of Water, and stately Trees, and ending in a Distribution of Bowers of Palisades. The Spectator's Eye is satisfied with this Prospect, and requires nothing more: But he is afterwards agreeably surpris'd, when he finds the Objects, which he imagined to be the Boundaries of his View, are so many Openings into a new Order of Beauties.

The

I. A low Palisade to unite the Alley with the Avenue, extended into y^e Country. R.

§ The elevation of the palisades that border the Parterre, and are cut into Arcades.



A The Entrance.

B The great Court.

C An Amphitheatre of Flowers, wth 2 fountains, embellish'd wth Trees, visible at y^e first entrance

D The House.

E The Parterre of plain Turf with two Palliades form'd into Arches. (mimic)

F A grassy plot & adjoining a lawn to 1 of the GHK Benches, Niches, Halls, Cabinets, & other

Forms of Vesture of a different Taste.

L A low Palliade, to unite the Alley with the Avenue, extended into y^e Country, R.

L Alley in the Kitchen Garden.

M A false entrance with two palliades, & embellish'd with two borders, usually adorn'd with Flowering Trees.

N A large Mount, which does not intercept the extent of y^e prospect from the house & D.

O A large Mount, which does not intercept the extent of y^e prospect from the house & D.

O A Yard for Poultry.

P Stables

Q Adjacent Outbuilds.

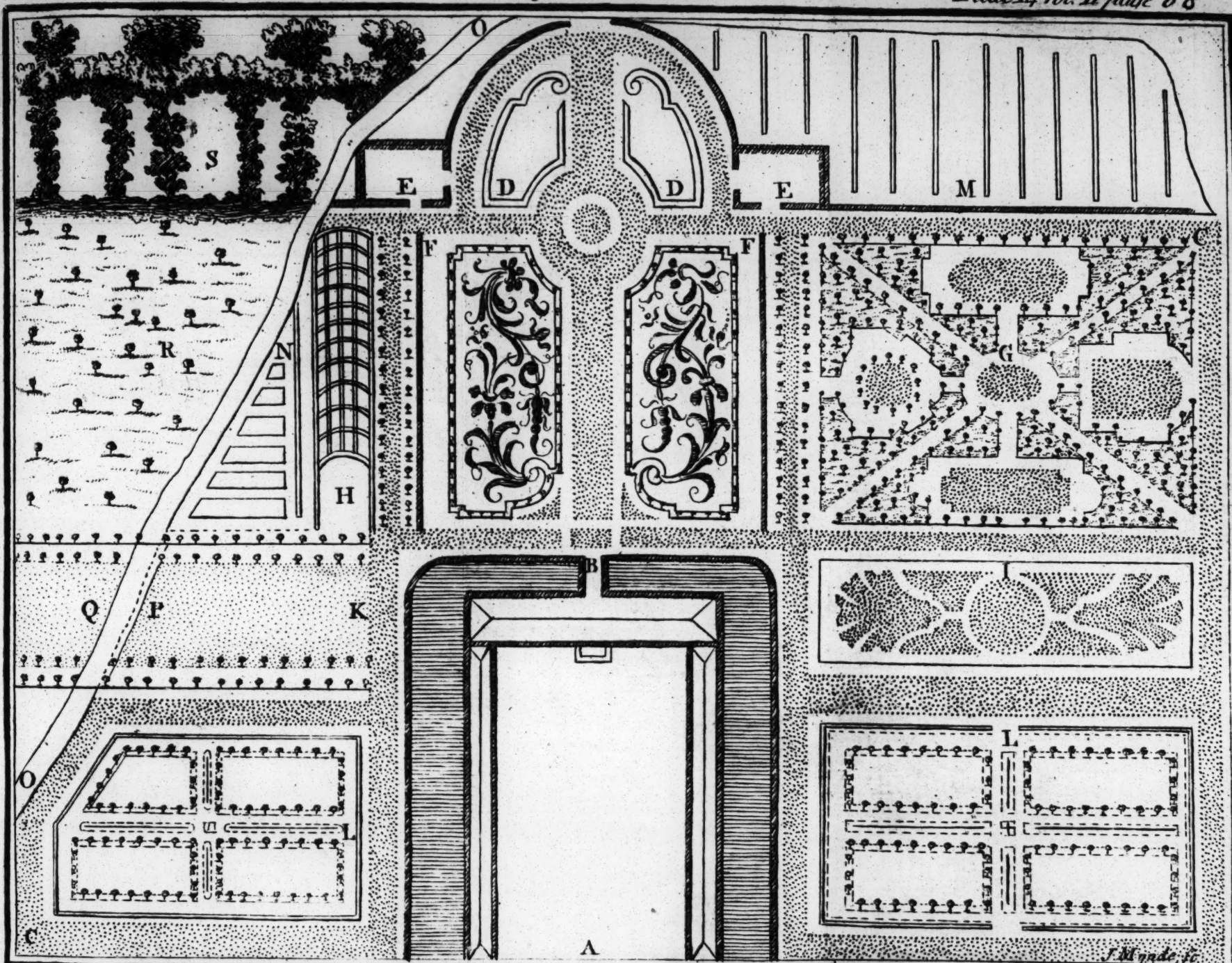
S The elevation of the palliades that border the Parterre, and are cut into Arches.

The Distribution of an

irregular Ground Plot

J. Mynde sc.





A The Court Yard and Buildings.

B A Bridge over the Fosse.

C All those places pointed with dots are Alleys cover'd with Turf.

D Large Beds embellish'd with Flowers

E Verdant Halls

F Palisadoes

G A Little Grove

H An Arbour wth an adjoining Terrass for enjoying a prospect of the Country R

I A Parterre after the English manner to be view'd from one of y^e wings of y^e house

K A large Alley under y^e windows of the other wing & extended to the Country.

L A Parterre divided into oblong Compart^{ts}

M A part of y^e Plat form'd into an intersected gar^{den}

N Another part of the plat disposed into Melon beds

O The High Road

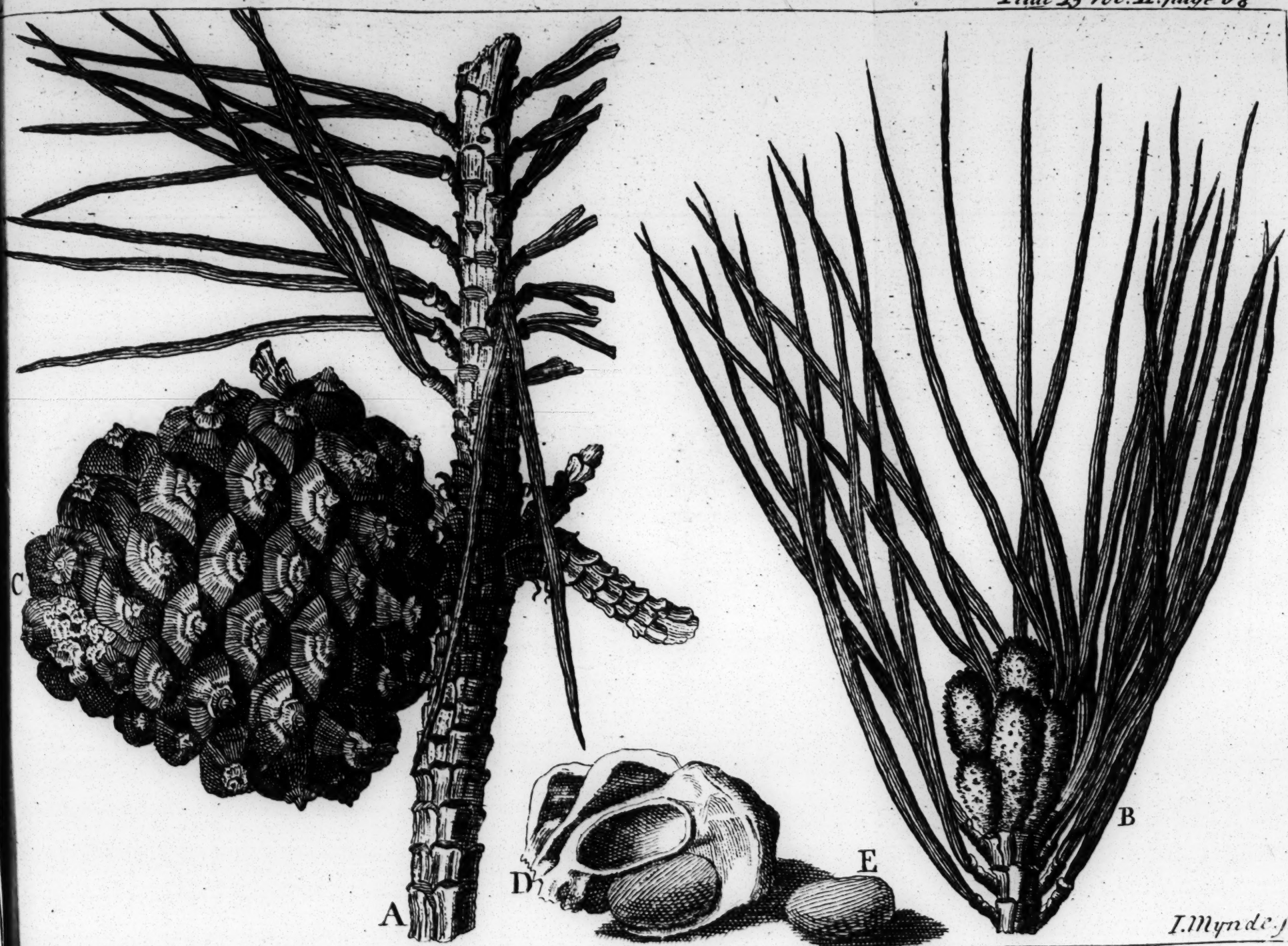
P A Short Palliade low enough to Unite the View of the alley K with the Avenue Q

R The Country

S The Elevation of the Arbour H.



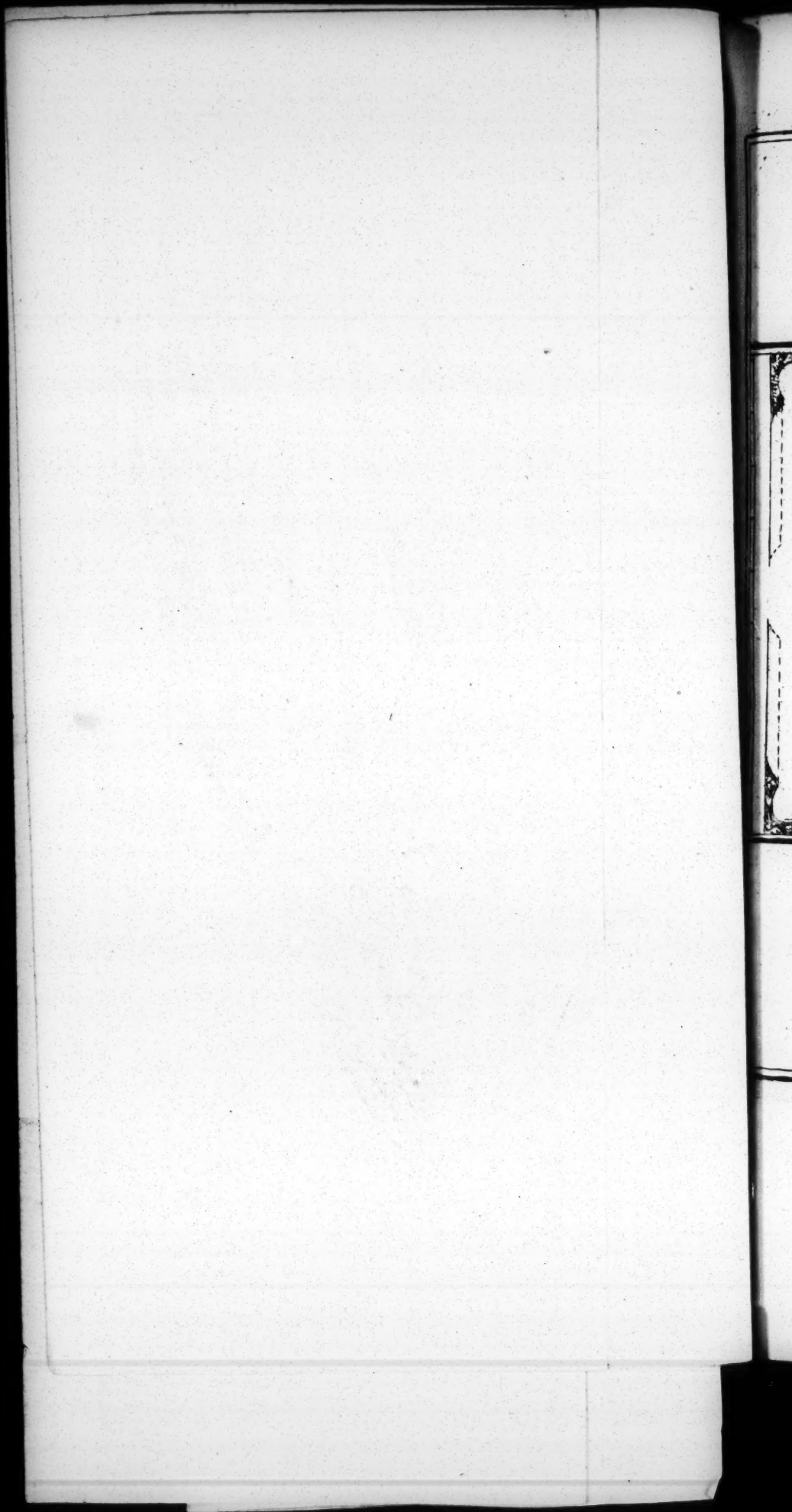
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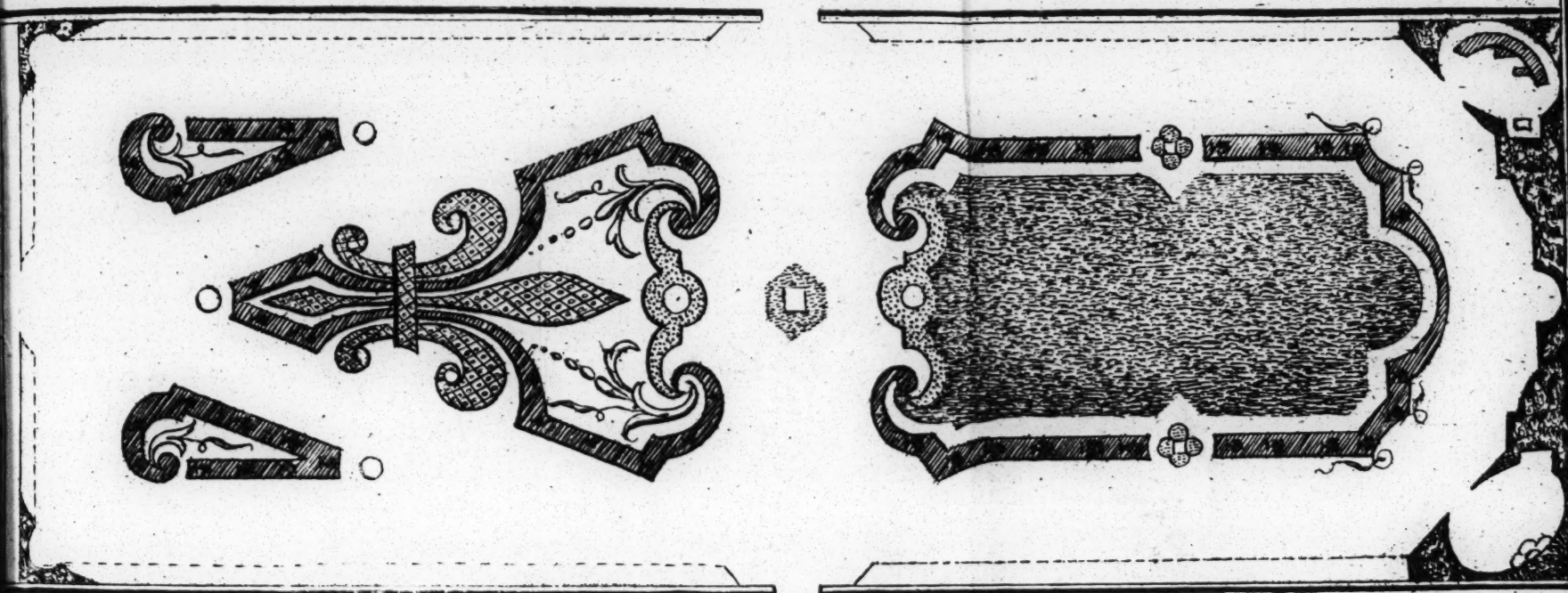


A Branch of the Pine Tree wth its Foliage & Apple.
An Extremity of y^e same branch wth its Foliage, &
Chives, from whence the powder falls into the Drisicet

The Pine Tree

of the Apple C to secundify it.
D. Part of the Apple bruised.
E. The Kernel of the Pine Apple taken out of its Husk





The Disposition of a plot of Ground
containing 36 Fathom in Length & 9 in breadth



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The full Prospect of the adjoining Country is likewise conceal'd from him, at his first Entrance into the Garden, and he is only permitted to see one Part of it, as it were by stealth. You have here, for Instance, a rural View through the long Vista that fronts the Parterre; and the Prospect is more extensive at the end of that cross Alley, terminated by a Palisade, Breast-high; and which has been towered in that manner, to unite the Garden with the outward Avenue, to which it corresponds. The Palisades and Groves are not suffered to rise to such a Height as would intercept the Prospect of the neighbouring Plain and Mountains from the upper Apartments. This View is render'd more agreeable by its not being unfolded when you enter the Garden; and indeed it is a considerable Advantage to our artificial Spots of Ground, when we have no Opportunity of comparing them, in unlimited Freedom, with the magnificent Garden of Nature, which would cause ours to shrink from our View. It is certainly much more pleasing to be surpris'd with the Expanse of an unbounded Plain, when you come to the edge of a Grove, or the turn of a Palisade. You may perceive the Effect of such a Disposition, when we pass behind that Arbour, in order to seat ourselves on the Terrass which rises on the other Side.

Chevalier. It seems as if some Persons had undrawn a Curtain, that conceal'd the Heavens and the Landskip from our View.

Count. We may diversify the Prospect as much as possible, by passing from one Division of the Gardens to another: New Tastes and new Characters may rise before us. One part presents us with an Air of Grandeur: another has a more sprightly Appearance. In this place a Star shoots out its verdant Rays, and leaves us uncertain of the Track we ought to take through the Wood. That opening Hollow is cover'd with a long green Carpet, and resembles the inverted Roof of a Coach. The Arcades of Lindens that border it; the Vases of Flowers that adorn those Arcades; the fragrant Freshness we there enjoy; the free Circulation of the Gales; the Melody of innumerable Birds, who warble in the Branches of that Retreat; every Circumstance attracts your Attention, and tempts you to continue in that delicious Verdure. Another Portion of the Garden glooms with a solitary savage Air, and qualifies the Mind for the Sedateness



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ness of Contemplation. In that Quarter every solemn Thought is dissipated, and the Eye wanders over the adjacent Cots and Hamlets. An unfertile Spot, that resounds with the Northern Blasts, may be converted into a Grotto, where we may retire from the Heat, and be accommodated with a reviving Coolness. An Eminence of difficult Access is ascensible by a long Flight of easy Steps cut in the Earth, and which conduct us to such a delightful Point of View, and makes us reproach ourselves for not observing it sooner. When we thus can regulate all Plots and Situations in a judicious manner, and are able to complete each Object by Nature's Model, we may diversify her Aspects, and multiply her Beauties; we may then strike out open Walks, and cover ourselves with arching Shades, agreeably to the different Seasons and Changes of Weather; and if the Day happens not to be rainy, we may be always sure of enjoying the Benefit of a pleasing Air, without being incommoded by the Severity of the Winds, or Sun. We shall be gratified, by these Precautions, with all the amiable Stores of Nature; and a single Turn in the Garden, is a little Journey, which we always finish with Satisfaction, and find it a salutary Exercise.

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T H E
Pleasures and Advantages
O F
GARDENING in General;
A N D
Of the OLITORY,
O R
KITCHEN-GARDEN, in particular.

D I A L O G U E V.

The PRIOR. *The* CHEVALIER.

Prior. **H**OW came you, Sir, to entertain a Thought of making the agreeable Collection you have mention'd ?

Chevalier. I owe it entirely to you, Sir ; for when I was last in this Place, you advis'd me to read the Georgics of *Virgil*, and after that, the Gardens of **Rapin*, and † *Vanier*'s Farm ; which I have accordingly done.

Prior. I need not ask you then, if you are become an Advocate for a Country Life ?

Chevalier. One is certainly tempted to withdraw from Cities, after reading those Authors ; and their three Poems have enchanted me to such a Degree, that I have had them all bound in this single Volume, which I call my rural Li-

* Renati Rapini Hortor. lib. IV.

† Jacobi Vanerii Prædium Rusticum.

Prior. If we except some Fables, in which Father *Rapin* has revived the Gods and Language of the Pagans, without any Necessity for that Proceeding, since the Fiction is not productive of any useful Truth; these three Works may be read with perpetual Pleasure and Improvement. I am sensible, that the Public alone has a Right to decide, whether the *Gardens* and the *Farm* are worthy to be consider'd as the second and third Parts of the *Georgics*; but I intend to imitate your Example, and join them together with one common Title, which shall be the very same that you have suggested to me.

Chevalier. But may we not enlarge this Library a little?

Prior. Nothing prevents us from increasing it with several Passages out of *Cato*, *Cicero* *, *Horace* †, and *Pliny* ‡ the Naturalist: who presents us with the finest Images of Husbandry and a rural Life.

Chevalier. Let us not forget the two Villa's of *Pliny* the younger §. I have lately visited all their Apartments and Gardens with abundance of Pleasure, and with *Monfieur Felibien* for my Guide.

Prior. The Works we have mention'd are some of the finest and most delicate in the *Latin* Tongue.

Chevalier. I fancy we may be furnished with a Collection of this nature from the *French*.

Prior. I can assure you, Sir, that our Tongue, or at least our *French* Poetry, has not any Work of Taste that deserves to be ranked in your Plan.

Chevalier. I am extremely surpris'd at that, since the Subject is so fine, that it is impossible for Poetry to expatiate in a more delightful Field.

Prior. It is undoubtedly a Subject worthy of the greatest Masters. Husbandry, in particular, has been unattempted as yet, and we have not one *French* Poet who has struck out the least Sketch of it; though it would certainly furnish a happy Genius with the most effectual Means of pleasing every Reader.

* *Cicer. de Senect.*

† *Lib. II. Sat. VI. & I. Epist. 10, 14, 16.*

‡ *Hist. nat. l. 18. cap. 2.*

§ *Plin. jun. Laurentinum, l. 2. Ep. 17. & Tusci, l. 5. Ep. 6.*

Vide *Les Maisons de Pline*, par *Felibien*.

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Pray inform me, Sir, as we are walking towards the Kitchen-Garden, whence proceeds the singular Delight you experience in reading those amiable Writers that compose your little Collection? I am sensible their *Latin* is pure, and their Paintings represent Realities; but they share these Qualifications in common with other Authors: Why then are they more agreeable to you than all the rest?

Chevalier. The Pleasure they afford me, proceeds undoubtedly from their Choice of rural Objects.

Prior. I am of the same Opinion; and we may easily foresee they will always be read, because their Subject is not obnoxious to the Vicissitude of Years, or the Caprice of Tastes. We are generally born Gardeners, and our first Inclinations tend to the Culture of Fruits and Flowers. We are divided with respect to all other Articles; and our Taste for Husbandry is the only Disposition that re-unites us. Whatever Difference the Necessities of Life, or the Customs of Society may create in our usual Employments, we always remember our original State. Man, in his first Innocence, was destined to cultivate the Earth; and we have not lost the Idea of our ancient Nobility; every other Condition of Life seems to subject or degrade us; but whenever we disengage ourselves from our common Occupations, and can breathe in Freedom for a few Moments, we are sensible of a secret Propensity to Gardening. The Merchant thinks himself happy, when he has an Opportunity of passing from his Compting-house to his Flowers. The Mechanic, whom rigid Necessity always fixes to the same Place, adorns his Window with a Box of Verdure. The Military Man and the Magistrate are equally solicitous for a Country Life, and retire, for some Months at least in each Year, from the Court, the City, and the Hurry of Affairs, to enjoy the Charms of their rural Estate. Gardening is then their favourite Language, and the Generality of them are emulous to understand its finest Operations. In a Word, the Cultivation of a Garden is only disrelish'd by a false Taste, and a depraved Delicacy of Thought.

Men of the finest Genius and most exalted Stations have distinguished themselves, in all Ages, by a remarkable Inclination to the Culture of the Earth. This Inclination is even now consider'd as the Panegyric of *Solomon*, King *Uzziah*, the younger *Cyrus*, *Fabricius*, *Hiero*, *Masivissa*, the

Emperor *Probus*, *Charles* the Fifth, and *Lewis* the Fourteenth.

Chevalier. I know that *Lewis* the Fourteenth caused the Gardens of *Versailles* to be formed from the Designs of Monsieur *Le Notre*, but did not imagine he ever made Gardening his particular Amusement.

Prior. When he had been conversing for some Time with Marshal *Turenne*, or Monsieur *Colbert*, he entertained himself with Monsieur *de la Quintinie*, and frequently took a Pleasure in shaping a Tree with his own Hands. I shall not tell you, that the Earth was conscious of the Honour of being cultivated by Hands accustomed to a Scepter: But you will readily acknowledge, that a Plant could not fail of Success, when it was governed by the same Prudence that conducted the State. We may even say, that every thing is more prosperous under the Hands of Heroes *, because they devote more Care and Precaution to the Management of each Particular they undertake. We are now arrived at the Kitchen-Garden, let us walk in.

Chevalier. This is the first Visit it has received from me this Season. What a Scene of Order and Elegancy is here!

Prior. It is a real Republick in every Particular. A skilful Hand has parcelled out all the Land, and assembled a whole People of Plants, assigning to each its proper Dwelling and Situation. Those Families that are sprung from the same Original are lodg'd a-part in distinct Cantons, and form as many different Communities. Their Multitude never creates any Confusion here; and you may observe a general Propriety and Regulation diffused through the Whole.

In order to prevent the Citizens of this State from being injurious to each other, and that the great ones may not impoverish their Inferiors by engrossing the nutrimental Juices of the Earth to themselves, the smaller Plants have such a Portion of Ground allotted them, as suffices for their Support, and at a proper Distance from those Trees which demand a copious Sustenance, and must be lodged more at large. Or if they sometimes approach each other, and are obliged to live together in one Society, the strongest Trees are then curbed by such severe Laws, as render them incapable of being injurious to the least Species of Pulse;

* *Plin*, Hist. Nat. l. 18. c. 2.

and the vigilant Care of a good Government causes the whole Tribe to flourish in perfect Harmony with each other.

Chevalier. I not only admire the Order I here discover, but am equally affected with the Beauty that appears in every Part. The Beauty of a Kitchen-Garden.

Prior. It is the Order itself which constitutes that Beauty.

Chevalier. I observe that the Espaliers, which cover the Walls, rise exactly to the same Height, and not a single Leaf is permitted to advance above another.

Prior. One would be apt to take them, at the first View, for a Set of fine Tapestry.

Chevalier. Those Bushes that edge the Squares are formed in the utmost Perfection.

Prior. They are so many natural Vases that embellish those Alleys, and are infinitely more amiable than such as are formed out of Marble and gilded Metals.

Chevalier. Where-e'er I direct my View, either through the Alleys, or over the Beds of Herbage, I observe a regular Extent, and a perfect Symmetry; and am not able to determine whether I ought to give the Preference to the Parterre, or the Olitory, even with respect to the Charms of Prospect. This is a Point, Sir, which I leave to your Decision.

Prior. The Parterre, indeed, is more lively and dazzling, at the first View; but the Olitory will attract the Spectator's Eye for a longer Time, and create more Satisfaction in his Mind. A Parterre is a Beauty that seems a little too much adjusted by Art, and its Anxiousness to please is render'd too apparent: But this Foible is excusable in a Parterre, which is only formed to amuse us with a transient Pleasure. The Graces of an Olitory have more Reality, and a much easier Air; and, beside the Softness of its Colours, with the Symmetry and Grandeur of its Appearance, it enjoys two Qualities that are still more valuable: I mean, an extreme Simplicity, and a very extraordinary Usefulness. Simplicity is the right Adjustment of the Amiable, and exhibits it in its full Merit; and all the World allows Usefulness to be the completest Instance of Perfection.

Chevalier. Is this Simplicity so great as you represent it, since I observe it to be intermixed with a Variety of Flowers?

Prior. It is so indeed; but they don't owe their Arrangement either to Art or Study. No particular Care has been taken to plant them where they now make their Appearance, and they present themselves to our View in a spontaneous Bloom. They resemble those Graces of Youth which Nature is industrious to embellish; and we are no longer touch'd with any Agreeableness, than while the Solicitude to disclose it ceases to be apparent.

Chevalier. The Competition in this Particular is to the Disadvantage of the Parterre. But if the Kitchen-Garden triumphs in the Month of *May*, what may we not expect from it in *September*?

Prior. I am not for limiting its Merit to the Flowers of Spring, nor the Fruits of Autumn; since it enriches its Master with new Presents through the whole Course of the Year.

The most salutary of those Productions, with which the Earth arrays its Hills, and Plains, and Valleys, may be assembled in an Olitory for the Use of Man. This is his great Magazine of Sustainance, Remedies, and Amusements. There does he daily gather the verdant Produce of the Season, and is able to distinguish the first Rudiments and improving Growth of those Gifts that will afterward rise to his Hand; by which Means he enjoys, at the same Time, the present Plenty and the Promise of a future Fertility. It must delight him beyond Expression, to visit a Place where every Object tenders him some agreeable Present, and seems kindly sedulous to supply his Wants, and regale his Taste with all the Varieties he can desire.

Vineyards and arable Lands present us with their Productions but once a Year, and then remain unactive for several Months; nay, a whole Year's Repose is often necessary to recruit their exhausted Vigour. The Kitchen-Garden, on the contrary, presents us with a speedy Succession of new Crops, and continues its Liberalities even in the Winter-Season, by seeming to reserve for that particular Portion of the Year those Fruits and vegetable Food which may be kept for a considerable Time; that so we may always enjoy its Favours, even when the severest Frost has

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lock'd up its Treasures, and interrupted the Course of its Services.

Chevalier. You ascribe the finest Intentions in the World to this sort of Garden; and its Productions are really attended with such Circumstances as seem to result from those very Intentions.

Prior. The Intentions to supply us with Fruits and Herbage, at regular Seasons, The Succession of Fruits and Herbs. and in proper Quantities, are undeniable

Realities, and you know where they all reside. The Author of Nature has intermixed a wise Oeconomy with a boundless Profusion, and dispenses the various Kinds of Fruits and Herbs in such a manner, as qualifies them to cover our Tables through every Season of the Year. He causes them to succeed each other without Interruption, and without Confusion. Instead of lavishing all his Liberalities at once, and to such a Degree as would overwhelm us with their Luxury, he rather chuses to render them grateful, by imparting an Air of Novelty to each Species. His Bounty begins with the Delicacy of red Fruits, and continues to supply us from Month to Month, or rather from Week to Week, with new Kinds, and of all Qualities and Colours; but they are not preservable for any Length of Time, because they are soon to be succeeded by others. He reserves for the severe Season those Productions that acquire a firm Consistence; and when the Earth is even chill'd with Cold, and discontinues its Fertility, the Store-Room where the Fruits are deposited, communicates to some Species a gradual Maturity, which the Tree refused them. This gracious Precaution supplies the Winter with a Harvest peculiar to it, and presents us with Fruits that are unknown in every other Season. Thus is the Year render'd a perpetual Circle of Flowers and Fruits. Part of this Circle is frequently unadorned with Flowers; but the Fruits never leave any vacant Spaces. You may demonstrate this Truth, by taking a particular Survey of those Productions that grace an Olitory in a regular Succession; and you will be sensible that this Liberality is never interrupted.

Chevalier. Such a Garden as this seems to be a perpetual Source of Accommodations.

Prior. It is certainly an Enjoyment well worth procuring, and nothing is more consistent with the present Mode than

a fine Olitory. Réason therefore may sometimes happen to correspond with a reigning Fashion.

Chevalier. We have a Garden attended for this Use at our Country Seat; but it must be laid out in some new Manner, because nothing ever thrives in it. Be so good, Sir, as to let me know what Disposition you would give it were the Ground yours. It forms a very spacious Square; but I am for spreading Destruction through the whole, and would then consign it to your Management: You may extend your Lines, and plant it as you please, and have full Liberty to alter it in every particular as you think proper.

Prior. The Plot of Ground, upon which you would employ me, may perhaps be useful in any Form but a Kitchen-Garden.

Chevalier. The Architect thought it the properest Spot to form an agreeable Figure with the rest; and it will be difficult to apply it to any other Use.

Prior. When a proper Situation for a Kitchen-Garden is to be chosen, it is sometimes said, that we ought rather to have recourse to a Gardener, than to an Architect; lest the Consideration of mere Symmetry, and Commodiousness of Prospect, should prove an Inducement to fix on a Soil that will create abundance of unavailing Expence to improve it into Fertility; since all the Culture and Industry you can employ upon it may perhaps be incapable of changing the Malignity of its Nature. I suppose the Plot of Land, which you have commissioned me to manage as I please, is not so intractable; and I will now give you the proper Idea of a Kitchen-Garden, which can never be complete without these five different Advantages: A good Soil, a favourable Aspect, a beautiful Distribution of the Ground, a sufficient Quantity of Water, and a proper Choice of Plants. This is a very copious Subject, and we will reserve it, if you please, for our Entertainment to-morrow. Let us therefore finish our Walk at present, when we have read the first Passage of *Vanier's Farm*, that presents itself to our View when we open the Book.

Chevalier. I perceive he is your favourite Poet.

Prior. He is the Author who gave me a Relish for Reading, when I was of your Age. The first Ideas that create agreeable Impressions in our Minds are always most permanent, and afford us the greatest pleasure when we recollect them.

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DIALOGUE VI.

The PRIOR. The CHEVALIER.

Chevalier. **W**E are now to form a complete Olit-
tory, and must therefore unite
in one * Plot a good Soil, a fa-
vourable Aspect, a beautiful Dis-
tribution, a Supply of Water, and a proper Choice of
Plants.

Prior. We have Liberty to make the Model as perfect as
we please in our Conversations, and may distribute all our
Materials to the best Advantage.

The Temperaments of Earth in general may be distin-
guished into these three Classes, Sand, Loam,
and Clay. Sand is a Collection of solid, stony, Sand.
and loose Particles, of a roundish Form, and
almost incapable of any Cohesion with each other. The
Parts of this Earth, in Proportion to their Enlargement and

* Instruction de M. de la Quintinie. The Art of Husbandry, by
J. Mortimer.

Variation from a globular Figure, are gradually changed into Gravel, or a Couch of Pebbles. These different stony Soils are capable of receiving Water, Oil, Salts, Fire, Air, and all the Principles of Vegetation, into their Interstices; but can never retain them for any considerable Time, since the nutrimental Mixtures slide through the Vacuities as easily as they at first filled them. The Cultivation therefore of this Kind of Land is seldom productive of any fertile Effects.

Pure Earth. Pure Earth, on the contrary, is a Mass of little Clods, extremely fine, and probably of a cubical Form, qualified for an intimate Conjunction with each other, and for continuing imbedded in that manner. When the Earth is very compact, and its constituent Particulars are not separated by any Cavities, it forms Soils of Clay, Marl, or Chalk, which retain the Juices they receive; but are not very tractable to the Impressions of Water, Heat, and Air. The Fibres of Plants can hardly penetrate these Soils, and their Culture is rendered very difficult, I may venture to say impracticable.

Loam. Loam, or that Earth which is a Medium between Sand and Clay, is a Powder which partakes of the Pliancy of Sand, and the Consistence of pure Earth, and may be called a Composition of minute supple Masses; something spongy in their Nature, and easily disunited by Labour. They readily open to the Influences of the Air, and are very retentive of what they receive. Plants can shoot their Fibres into this Soil without any Obstruction, and are there accommodated with a copious Nourishment.

Chevalier. Happy is that Person who can form his Kitchen-Garden in a Soil of this Nature, which preserves a Medium between compact and light Earth. But how can we know whether the Land be suitable for our Purpose?

Prior. That just Temperament of Soil, which I call Loam, is manifested by the Pliancy of the Parts that compose it, and by the Vigour of its Productions. But we too often meet with a Disproportion in its Qualities, and this Earth of an intermediate Nature may be sandy in several Degrees, without being Sand itself; or it may resemble Marl, without having any real Intermixture of that Substance.

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Chevalier. When a Soil is either too lean or too compact, are there no Methods of rectifying those Defects?

Prior. Our Gardeners endeavour to correct them with a Variety of Manures; by which I mean those Earths or Composts which they spread over Manures. their Gardens to render them fertil. They lay Horse-Dung, which is light and dry, on a Soil of Mould, whose little Clods are apt to imbody with each other; and they appropriate to a sandy Soil an Intermixture of Cow-Dung, which is fat and binding. They endeavour by these Expedients to give Consistence to the one, and Rarefaction to the other, which is a very judicious and profitable Proceeding.

Those Proprietors of Land, who are industrious, have Recourse to a Method still more efficacious and durable in its Effects, since it strikes at the Cause of the Evil. They open the Ground to a certain Depth, either in their Garden or some adjoining Spot, and endeavour to find a Bed of Earth entirely different in its Qualities from the Land they would rectify. They intermix and thicken a dry and sandy Soil with a proper Quantity of Mould, or at least with a marshy Earth, which is frequently no more than a black and binding Loam. But they open and disunite a marly Earth, by mixing it with a large Quantity either of River-Sand, or of that which is found in subterranean Veins of Gravel. When the Earths are thus blended together, they are thrown into Heaps till the different Ingredients have had Time to incorporate in a proper Manner. The Beams of the Sun, the Winds and Frosts, together with the constant Action of the Air, will compleat the Preparation of the whole, and we may then plant in a Soil entirely new.

But as we acquire our Knowledge by very imperfect Degrees, and may be easily deceived in the Choice of a Soil which appeared to us sufficiently qualified to improve our own Land; it will be prudent to make the first Experiments on a small Quantity of Earth, till we are satisfied by very apparent Success, that our Endeavours to meliorate the whole will not be ineffectual.

As to other Circumstances, whether you intend to fertilize all the Ground of your Kitchen-Garden by these Intermixtures; or whether you limit your Improvements to some particular Squares, or the Trenches you appropriate to your

Trees; the two essential Points are your permitting the blended Soils to lye fallow, a Year at least, before you begin to plant; and your compleating the Mixture not in a parcimonious Manner, but to the Depth of three or four Feet: Otherwise, your Trees and several Species even of your Herbage, will inevitably perish, when their Roots begin to penetrate into another Vein of Earth, which will wound them by its unpliant Cohesion, or parch them up by its Dryness.

Chevalier. I am sensible that, if the Soils be intermixed to the Depth you have mentioned, the good Qualities of the one will reform the imperfections of the other: But surely this must occasion a dreadful Expence.

Prior. If the Garden-Plot be very extensive, the Attempt will certainly prove too chargeable; but there are other Expedients to rectify part of its Defects at a very moderate Cost. If the Soil, for Instance, be gross and difficult to be moved, or spongy to an extreme Degree, the square Compartments of the Garden should be a little raised towards the Middle, and sunk at the Extremities into two imperceptible Slopes; by which Means the Water that would chill the Beds, were it to remain upon them too long, flows off toward the Alleys, and may sink into such a Drain as will convey it to the Ditch that bounds the Garden.

When the Soil happens to be dry and porous, the square Beds should be sunk a little lower than the Alleys, or it may be sufficient to raise the Paths higher than the Beds, in order to secure them a proper Humidity in every Part, and to afford the Herbs and Roots the Refreshment of due Waterings.

But whatever may be the Nature of the Land, we find an excellent Effect from clearing the Alleys of their Snow in the Winter-Season, and throwing it on the Beds, whose Fertility is greatly improved by this Method.

Chevalier. Are there any Soil, incapable of being render'd fruitful?

Prior. There are two Sorts, which it would be better to abandon entirely, than risk the Expence of a Kitchen-Garden upon them. These are the stony and the chalky Soils.

Next to the Temperament of the Earth, which undoubtedly merits the first Attention, since it is chiefly conducive to the Plenty and Flavour of the Productions of an

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Olitory, no Circumstance is more important than the Situation: And this may properly be said to be good, when it shelters the Garden from incommoding Winds, and lays it open to that Aspect of the Sun which is most beneficial.

Chevalier. Are not all Winds injurious in Proportion to their Violence? How then are their fatal Effects to be evaded?

Prior. We at least should endeavour to be sheltered from those that are most pernicious; I mean the *Northern* Blasts, or those of the *North-West*, and all tempestuous Winds. We may say of the first of these, what the Scripture declares with relation to a victorious People, whom God in his Wrath caused to march forth: * *The Land is as the Garden of Eden before them, and behind them a desolate Wilderness.* The Country was a verdant Paradise before their Approach, but was rendred a dreary Desert by their Passage through it. The Breath of the *North-west* is not so destructive as that of the *North-East* Wind, but it checks every Plant that begins to bloom, and its Discontinuance is frequently preceded by a tempest of Hail, which in a few Moments lays waste all the luxuriant Promises of the Spring.

Tho' these two Winds are commonly the most malignant of all, yet there are others to be dreaded in every Situation we can possibly chuse: We ought therefore to consider those particular Quarters which are productive of the most dangerous Blasts; and especially the Quarters which engender such Storms as strip the Trees of their Fruits.

Chevalier. Of what Advantage is a Knowledge of this Nature? We may easily distinguish the Regions from whence the Winds blow, but how can we prevent their Effects?

Prior. A Kitchen-Garden may be defended from the Insults of those Winds that are most to be feared; either by a lofty Wall or a spacious Edifice, or we may cause these Blasts to be intercepted by a large Wood which breaks all their Force; and this is the Expedient practised in *Normandy* and *Britany*: Or else we may form the Kitchen-Garden under the Shelter of a Hill, which shuts up all Avenues to it.

* *Joel ii. 3.* Quasi Hortus voluptatis coram eo, & post illum solitudo deserti.

The Benefit of a fine Sun-shine is as much to be desired for such a Garden, as the noxious Winds are to be dreaded. A Situation to the *South* is generally the most eligible of any, unless your Land be extremely light and thin; for it will then be exhausted by too much Heat. An Opening to the *East* is likewise more esteemed than one to the *West*, but a *Northern* Aspect is the worst of all, if it be not recompensed by an excellent Temperament of Soil.

Chevalier. I doubt a Plot of Land entirely exposed to the could Winds will never produce any thing good.

Prior. We, however, see some Instances to the contrary; the admirable Wine of *Sillery* grows on the Declivity of *Verzenai*, which slopes to the *North*, without the least Shelter, and lies obliquely to the Sun.

Chevalier. What you have observed, Sir, of the Situation of a Garden in general, may certainly be said of each particular Wall. The best *Espaliers*, therefore, are those which are visited by a *Southern* Sun; and next to this Situation we approve of a Wall placed to the *East*. Be so good as to inform me, Sir, to what Trees these Exposures are appropriated: I have sometimes seen Peaches and Pears that have been rather scorched than ripened, in a Position to the *South*.

Prior. A *Southern* *Espalier* is reserved for Winter Bon-chrétiens, Muscadine Grapes, and all those Fruits that are not easily ripened. A Wall that fronts the rising Sun is more proper for Peaches, Apricocks, and some Species of exquisite and tender Pears, whose Colour we have an Inclination to heighten. A *Western* Exposure has likewise its Merit, but a *Northern* is the least favourable of all, for the Sun, even in the longest Days, can only visit that Quarter with a few scattered Rays divested of their genial Warmth.

Chevalier. His Lordship, the Count, gave me an Opportunity of observing that he had made every Wall in his Kitchen-Garden accessible to the Sun. Instead of causing the four Walls directly to front the four Quarters of the World, he opposed to those Regions the four Corners that join the Walls. In consequence of which Disposition the rising Sun warms the two *Espaliers* that unite in the *Western* Point; when he gains his Noon-day Height, he sheds his Heat along the two Walls that join to the *North*; and when he sinks to the *West*, he darts his Rays on the Walls that point to the *East*.

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Prior. All the Parts of the Garden therefore receive his benign Impressions, and every Wall is covered with a uniform Verdure.

As the extraordinary Benefit, that results from proper Exposures, peculiarly relates to the Espaliers, Care should be taken to strengthen the Reflection of the Sun-beams by a very white and smooth Parget, which exactly closes all the Cavities that would otherwise imbibe or deflect the Light.

Chevalier. The same Expedient chases away Rats, Mice, Dormice, and all noxious Animals, and compels them to search elsewhere for their Prey. I must now, Sir, desire you to inform me what particular Wood is used for the Lattice-Work which sustains the Espalier, and beautifies the whole Garden.

Prior. The Heart of Oak or Chesnut is appropriated to this Use, and the whole ought to be well joined and preserved from putrifying, by being painted first with a Lay of white Lead, and afterward with two Lays of Mountain-Green liquified into an Oil. Such a Lattice-Work as this will last between thirty and forty Years.

Chevalier. By that Means, Sir, could you form the Espaliers of your Priory into such an elegant Air, without the Aid of Lattice-Work?

Prior. I had Recourse to the same Expedient which is now practised by several Persons of Taste. Instead of the Lattice of Wood-work, which frequently affords a Retreat to a Number of Enemies, we may form a Lattice of large Wires, which proves as serviceable and lasting as the other, and is compleated at a very moderate Expence.

Chevalier. As I look through the Bars of the Door that opens into the Melon-Ground, I observe the Top of the Walls covered through their whole Extent with a kind of little Roof, of whose Use I am entirely ignorant.

Prior. A Gentleman of the Army who has long made the Cultivation of Fruits his Amusement, amidst his Solitude, in Times of Peace, and whose extraordinary Success renders him worthy to be recommended as a Model, has added to the Parget and Lattice-Work such a kind of Pent-house as is raised upon that Wall, and its Function is to compleat the Efficacy of good Situations. Several small Bars of Iron or Wood about two Foot long are inserted horizontally into the upper part of the Wall, and at a regular

gular Distance from each other, in order to support one or two Planks, which are to be removed whenever we are disposed to afford the Leaves a proper Refreshment of Rains and Dews. This Roof, by intercepting the Action of the Air above, prevents the Tree from shooting that way with any extraordinary Vigour, and causes it to expand to the Right and Left. It likewise effectually covers the Espaliers during the severe Frosts, and shelters the Buds and Fruits from the inclemency of Hail-Showers. In a Word, it preserves the upper Part of the Tree from the Drippings of the Wall, which, by falling perpetually on the same Branches, either rot or hollow them, and cause a glutinous Fluid to be shed over them.

When the Positions and Inclosure have been properly regulated, the Distribution of the whole Plot is the next Circumstance to be considered. It may be divided into two, four, or six Squares formed with Cut-work, and surrounded by large Alleys. But, instead of these square Divisions, the whole may be parcelled out into four Triangles, separated by two Alleys that correspond with the Figure of St. Andrew's Cross. The Centre is adorned either with a pleasing Fountain, or the ample Round of a Basin.

We think it natural to behold a very spacious Alley when we first advance into the Garden, and, if the Entrance be exactly in the Middle, which is most regular, the Distribution into Squares will then seem necessary, in order to present a fine Alley in Front, and another in a transverse Line to the View of those who enter. If we are obliged to place the Entrance into the Kitchen-Garden in some Corner, we may then have recourse to the cross Division, that we may enjoy at our first Approach the sudden Prospect of three Alleys: namely, those that run parallel with the two Walls, and that which traverses the Triangles. But since the Extremity of these Pieces would disfigure the Ground-Plot by their pointed Forms, we usually bend them into a Semicircle, which enlarges the Place, and gives the Entrance a more graceful Air.

Chevalier. I am very much surprized to see a Distance of seven or eight Feet left between the Walls and the Border of the Alleys.

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Prior. That Vacancy is intended for the Cultivation of several forward Plants of different Kinds, in a Shelter from injurious Air, and beneath the Reflection of the Sun-Beams; and the beneficial Effects of the Compost, the Culture, and the frequently repeated Waterings, are always imparted to the Roots of the adjoining Fruit-Trees.

Chevalier. I imagined this Tract of Ground had been entirely lost; but I now perceive you can employ it to a double Advantage.

Prior. Let us return to the Squares. The Border that surrounds them, and in which several bushy Dwarf-Trees are disposed, is adjusted by the Verge of the Alley on the one Side; and on the Other, by the Track which limits the Beds that are formed in the inward Space of those Squares.

Chevalier. I see the Dwarf-Trees are planted at a considerable Distance from the Verge of the Alley, and very near the Beds in the Square; but would not they have produced a better Effect, if they had been disposed exactly in the Middle of their own Bed?

Prior. They are ranged at the Distance of five Feet from the Verge, that the Branches may not encroach upon the Alley when they are expanded into their full Growth; and as to the Track next the Square, it may be then struck farther in by diminishing the Length of the Beds, which are bounded by it.

Chevalier. I have seen some fine Kitchen-Gardens, where the large Pieces were edged with Lines of Box; but all the Borders in this Garden are composed of useful Plants.

Prior. There is some Oeconomy in this Method. The Growth of Box fills up a Space of Ground to little Purpose: It is likewise a voracious Plant, and requires much Tending. Are not these Borders therefore garnished to more Advantage with Plants that are useful, and afford us proper Ingredients for Sallads, or at least are valuable for their Scents, or some medicinal Quality they possess? Here you may see a long File of Terragon, and there a Range of Lavender is stretched out. One Alley may be bordered with Parsley, and another with sweet Basil or salutary Wormwood, or fragrant Marjoram. Sage and Savoury frequently rise in one Line, and Pimpernel Blooms in the same Bed with odorous Thyme. Borders are likewise formed of Strawberry Plants, and Violets; may have the same Distribution

bution, in order to accommodate us with a Syrup in their proper Seasons.

Those Alleys that are least necessary are sometimes ornamented with Turf, or a Verdure of Strawberry-Trees. A cross Alley, that is but little frequented, may be embellished by a Line of double Hollyhocks running through the middle; and in some other Walk of the like Nature you may plant Poppies, and rear the Seeds of the Anemone, the Ranunculus, the Violet, and Stockgilliflower. These unexpensive Forests of Flowers will beautify a useless Plot of Land, at the same time that they are a Seminary for the Parterre.

The Ground that forms the Squares should be distributed into Beds four Feet in Breadth, and separated from each other by a Foot-wide Path. Such a Disposition enables the Gardener to extend his Hand to the Middle of each Bed, and to cultivate the whole Plantation without any Difficulty.

Chevalier. At a little Distance from this Garden is a Spot of Ground, which the Gardener has appropriated to several Species of esculent Plants; but the Beds are formed in a manner that seemed entirely new to me; they rise very high on one Side, and descend in an easy Slope on the other. What may be the Advantage of such a Disposition?

Prior. They are properly called Shelving Beds; and you may observe their Ascent is to the North, and their Declivity to the South. I will now acquaint you with their Use. If the Land be too moist or cold, and especially if it lies open to bleak Winds, this Method of disposing the Beds in a Slant is very commodious, but too much neglected at Present. As this Figure is uniform through the whole Extent of the Beds, it is intirely inoffensive to the Eye; and as the Water must unavoidably trickle into the Path, the Beds will consequently be rendered more dry. The shelving form of the Earth qualifies the Surface for receiving the Sun-beams almost in a perpendicular Direction, which strengthens the Reflection, and redoubles the Heat. A Third Advantage, and which perhaps is superior to the other two is, that the rapid Sweep of Hail and North-East Winds being considerably weaken'd by the back part of these elevated Beds, will be less prejudicial to the

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the Plants, which lie concealed from Insult on the descending Side. These flanting Beds are an Imitation of the vast Garden of Nature, where the Almighty Hand, that dispenses Vegetation and Growth to Plants, has ranged them on Hills and Declivities at due Intervals of Distance, that the solar Rays may be reflected with more Vigour upon the green Productions, which without this benign Aid would seldom advance to Maturity in the temperate Climes.

But as advantageous soever as the Disposition of your Garden in all its Parts Water. may prove, it will be impossible for you to fertilize the Whole, unless you have a commodious Supply of Water, that can always be distributed through every Quarter of the Garden.

Chevalier. How delightful it is to be able, as in this Place, to diffuse with one Turn of a Cock the Stream of a limpid Spring to the Side-board, the Kitchen, the Bason in the Parterre, and the Cisterns in the Olitory! Spring-Water.

Prior. Though this kind of Water, when it has settled, and been warm'd by the Air, is render'd very fit to facilitate the Progress of the Sap in Plants, I should have as much Esteem at least for River-Water, which, as it constantly receives the volatile Salts, and other Influences of the Air, must needs be very salutary to Plants. River-Water. Well-Water is the worst of all, because its Chillness is apt to prove fatal to the Roots; and a Gardener should be very cautious of employing it till he has first exposed it to the Air. Well-Water.

Chevalier. Do you approve the Use of Cisterns?

Prior. Cistern-Water is only a Collection of Rain, and is extremely light. It may Cisterns. even be render'd a very wholesom Drink, when we are capable of preserving it in its due Purity.

But whether there be a sufficient Supply of other Water, or not, is certainly a good Precaution to sink a Cistern in those Terrasses, on which it is usual to build fine rural Seats for the Benefit of a salutary Air and an open Prospect. A large Cistern will collect in an Instant all the Water that has been shed upon your Building, and poured into your Courts

Courts by a transient Storm; and it always accommodates you with a Reservoir in case of Fire. It is likewise a certain Resource, when a dry Season has exhausted the Wells and Springs, and it proves an admirable Fluid for Watering of Plants. The Slime and nitrous Particles which are swept by the Water from the Roof and other Parts of the Habitation, sink to the bottom of the Cistern, and form a Sediment, which the Gardener prefers to all kinds of Compost and Manures whatever, with respect to fortifying the Plants that thrive, or re-animating those that droop.

These Preparations qualify the Ground for the Reception of the young Plant, with which you propose to embellish it. But you must be very circumspect in this Particular, lest you should happen to be deceived in the Purchase of your Trees, and be obliged to wait seven or eight Years for the Fruit of a Pear-Tree, which must afterward be rooted up.

Chevalier. Are there not some sure Marks by which we may know the Species, before we see the Fruit?

Prior. There are several Species which resemble each other so much in their Wood and Foliage, that they frequently deceive the most skilful Persons. We can never be too diffident of the presuming Ignorance of dishonest Gardeners, as well as of the Mistakes of those who have the greatest Probity, and likewise of the Abuse that reigns in the Names of Fruit-Trees. What the *Persians* call the Queen *Claudia* is known by the Name of the Green Apricot at *Tours*; at *Roan* it is the Gay Green, and at *Vitri** the Dauphin Plumb. The same Diversity prevails with respect to other Fruits, and they are frequently called by different Names in Gardens of the same Neighbourhood.

Chevalier. At this Rate indeed we can never know what we buy; but is there no Remedy for such an Inconvenience?

Prior. The best Course we can take, will be to lay out our Money in those Places that are most in Repute, and to

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explain ourselves in such a manner as may prevent all Equivocation. We should afterward be early in grafting, in a Nursery, a great Number of those Species that are most approved. It is likewise a safe Expedient to deposit some of the finest Plants of the Nursery, in Wicker-Baskets, in order to be replaced in the Room of those whose Decay would interrupt that agreeable Order and Succession of Fruits which you may be desirous of securing.

Chevalier. When we design to plant Espaliers and Dwarf-Trees, what particular Space should be left between them? I here observe, that all the Trees are twice as distant from each other, as they are in any other Place that I have seen.

Prior. This Disposition has been observed, because the Temperament of the Soil is excellent; had it been lean, and not very fertile, the Trees would have been planted nearer to each other.

Chevalier. I should think the contrary Practice would be most proper; for why should we expect the Earth to be most fertile when it has least Nourishment to impart?

Prior. I will first give you the Particulars of the present Method, and then acquaint you with the Reasons for pursuing it.

When we plant against a low Wall of about seven or eight Feet in Height, the Trees are disposed at a much greater Distance from each other, than they are against a higher Wall, that so they may be expanded without any Confusion, and to afford them on each Side the Enjoyment of that Liberty which is denied them at the Top.

A low Wall.

When the Wall is twelve or fifteen Feet high, the Plantation may be set thicker, by placing a Dwarf-Tree between two other Trees of a larger Growth, which will embellish the Wall, and render every Part of it profitable.

A high Wall.

But no Circumstance is so proper to determine the just Distance of the Trees, as the Temperament of the Soil. If the Wall be low, and the Ground very good, the Pear and Peach-Trees should be planted at the Distance of nine Feet from one another; and as the Apricock and Plumb-Trees shoot into a more luxuriant Growth, their Interval should be twelve Feet. If the Soil be but indifferent, the Space between

between them ought to be less by three Feet; so that those of the first Class should grow within six Feet of each other, and those of the second within nine. If the Wall be lofty, and the Soil excellent, the tall and short Stocks are separated by a Width of six Feet; but if the Ground be not extraordinary, they may be planted thicker, and four Feet will be a sufficient Extent for the intermediate Space.

Chevalier. I am impatient to know the Reason of this Method.

Prior. It is this: The Fruits generally spring from little weak Branches, which die for the most part at the Expiration of a few Years. The strong and vigorous Branches run all into Wood, and their Fruit is too small to be valuable. If your Trees lengthen their Roots in an excellent Soil, and are only allowed a small Space for the Expansion of their Branches, you will be obliged to lop these, to prevent their encroaching upon the Boughs of the neighbouring Espaliers. This Contraction of their Growth will render them exceeding vigorous, but it will likewise cause them to run into Wood; whereas when they extend themselves in their natural manner, they shoot out a Profusion of little Branches proper for bearing Fruit. The Espaliers expand but little in a lean or indifferent Soil, and therefore they ought to be planted closer to each other.

We are not confined to so much Strictness in the Disposition of Dwarfs, and the Distance between them may be very moderate in a rich Soil; because they are not branched out on two Sides only, like the Espaliers, but swell into a round Circumference.

Chevalier. Do you approve of the Method of extending the Branches of Vines along the Tops of Walls, and above the Espaliers?

Prior. When these last are young, the Vine may very properly fill the Vancacy, in order to refresh you with its Fruit, as well as with its Verdure.

Chevalier. I observe, when Persons are preparing to plant, they always sink very deep Trenches; and I should be glad to know, Sir, what Rule they follow in that Particular?

Preparations for
Planting.

Prior. The Gardeners, when they are to plant Espaliers, begin with opening a Trench six Feet wide, and three in depth, along

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along the Extent of the Wall. But when they plant Dwarfs, the Trench should be eight Feet in breadth, with the former Depth, unless it be continued from one End of the Garden to the other.

Chevalier. Do these Dwarfs require a larger Quantity of good Soil than the Espaliers? Or for what Reason are they allowed eight Feet in the Breadth of their Trenches?

Prior. The Espalier, which is fastened to the Wall, deflects its Roots from it, and requires an Extent of six Feet, in order to shoot them out on the other Side: But the Dwarf, which is placed in the middle of the Trench, has not more than four Feet of good Earth on either Side for the Accommodation of its Roots; and were the Breadth of the Trench less, the Roots would plunge too soon into a bad Earth.

If the Earth which is dug out of the Trench happens to be good, it ought to be inverted when it is thrown in; but if it be only indifferent, the Trench should be filled up with other Earth that has been prepared for some time.

Chevalier. One would wish to be certain of a good Soil for Planting.

Prior. The next Circumstance to be regulated is the proper Treatment of the Roots and Branches of the intended Plantation. Trees extend their Roots under the Earth, that by the Mediation of their Fibres they may imbibe the Water, which, together with the Salt, contains the Oil and other Principles of their Nourishment. They extend their Branches at the same time into another Fluid, which is the Air, that they may be impregnated, and chiefly by the instrumentality of their Leaves, with the fresh Steams and volatile Spirits that are constantly floating in it. The Leaves therefore render the same Offices to the Branches, as the Roots receive from the Fibres. And hence it follows, that if you transplant a Tree with the Earth that adheres to its Roots, as is daily practised at present, you may leave all or part of its Foliage upon it. The Leaves are one of the best Expedients for recruiting the Tree with the Humidity it lost in the Day-time, by Transpiration; and possibly, for diffusing to the Extremity of the Roots a Warmth, as well as a Stream of Air, whose Action and Elasticity may give Motion to the Sap. It is evident by Experience, that the Leaves which are left on the Tree

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contribute to the Invigoration of its Roots, and the Speediness of its Growth. But if the Roots have been uncovered, and divested of the Earth with which they were surrounded, the Tree is then too weak to nourish all the Branches after its Transplantation; and it would be of no Consequence to leave it its Foliage, which will be all shed in a few Days. It will be necessary therefore to lop off the Head, or at least to shorten all the Branches very considerably, that the Root, which at first is only employed in repairing its Losses, and whose Operations are then very languid, may have only Buds to nourish, instead of Branches; and may be in a Condition to transmit to them, by Degrees, such a Quantity of Juices as will protrude a Set of vigorous Sprouts.

Chevalier. But what would be the Consequence, should all the Branches be kept on the Tree we transplant?

Prior. The Sap, being too weak to produce capital Branches, would operate in those of the smallest Dimensions, and supply them with Fruit the ensuing Year. The Tree might deceive us by its plausible Appearance; but as it would be unproductive of large Branches, which are its only Resource, and the Basis of the Fruit-Branches; it would be incapable of expanding into a Head, and must therefore shrink to a Minuteness, and remain extremely languid, till at last it will be necessary to root it up. The Practice of lopping off the Head of a Tree, when it is not immediately transplanted with its adhering Earth, is not to be contested.

The Roots have been formerly considered in the same manner; and Monsieur de la Quintinie is almost as severe to them, as he is to the Branches. It is with some Difficulty that he consents to leave two or three of them on the Plant; and he limits their largest Extent to ten or twelve Inches. This Method of his is still practised in many Places.

Chevalier. May we be allowed to deviate from it, since he passes for an Oracle in Gardening?

Prior. The World undoubtedly has great Obligations to him; but the *Virtues* of the first Clais, and particularly Messieurs le Normand*, Father and Son, who succeeded

* *Memoires de M. le Normand.*

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Monfieur *de la Quintinie*, have discovered by a Series of Experiments, repeated with all imaginable Accuracy, that if a Tree be planted with all its sound Roots, it will thrive much better, and will speedily acquire a Vigour very different from that of its Neighbour, which was planted with a few Roots cut short. And when the contrary has at any Time happen'd, they have always discovered an evident Cause of this Irregularity, which did not result from any Circumstance of more or less Roots.

Chevalier. We sustain no Risque, when we act upon the Credit of such Authorities.

Prior. We may then conclude, that the safest Method of transplanting Trees is to preserve all their sound Roots; and we may likewise suffer the fibrous Roots to remain, when they appear fresh and vigorous. When the Roots begin to exert their Functions, they will certainly furnish more Sap and Aliment, than could be supplied, were their Number reduced to two or three. 'Tis Prudence therefore not to pay such an implicit Regard to a Set of difficult and incommodious Rules, as to destroy those Roots which are as good as any we can desire, and to wait a Length of Time for others, while we already possess those that are sufficient †.

When the Places for the several Trees have been marked out and opened, each Plant is laid near the Aperture into which it is afterwards to be inserted.

Chevalier. Should not the Bottom of every Hollow be covered with some Compost?

Prior. All judicious Planters entirely disapprove that Method: For as the Salts of that Manure would be perpetually descending below the Roots, they consequently must be useless to them. And as the Roots would be involved in a corrupting Sediment, they would undoubtedly be endanger'd by that Putrification. The Compost would likewise prevent the Earth from binding about the Roots so closely as it ought, and would form large Vacuities by the Dissipation of its own Substance; by which Means the fibrous Roots would languish, for want of a proper Soil to fasten upon. But the Affair is different with respect to

† Stultum est amittere rallo.s quas habemus, ut acquiramus novas.
Theopb.

Litter and other Manures that are disposed round the Stem of the Tree, and above the Surface of the Earth; for then the Salts and Juices descend in a beneficial manner to the Roots of the young Plant; and the Compost so placed is often render'd a necessary Covering to secure the tender Tree from the immoderate Penetration of Frost, and the Breath of scorching Winds, which would be fatal to it in the very first Heats.

Chevalier. It were to be wished this Compost had a more agreeable Appearance in a Garden.

Prior. It is usually cover'd over with a thin Surface of Earth, which conceals its Deformities.

Chevalier. What Season is set apart for Planting?

Prior. Every one declines it, when the Earth is impregnated with too much Rain, because it is then apt to consolidate about the Roots, which renders them incapable of shooting their Fibres into so impliant a Mass. The usual Season for Planting continues from the Beginning of *November* to the Middle of *March*. In lean Soils the Month of *November* is thought proper for planting, that the Trees may continue to shoot their Fibres, and gain some Advance during the remainder of *Autumn*. But in strong Soils, where an immoderate Humidity would be injurious to the young Tree in the Depth of Winter, Planting is deferr'd to the Month of *February*, or even to *March*. One of these two Seasons is likewise chosen for transplanting unfruitful Trees, and they have frequently been render'd fertil by a mere Change of Situation; which is a Circumstance that favours a Surmise I always entertain'd, that the Diminution of the Quantity, and the impetuous Flow of the Sap, accommodates its Operations more effectually to the smallest Branches, where the Fruit-Buds are lodged.

The most essential Circumstance in transplanting, and especially great Trees, is to render the Earth very compact, and to form it round the Roots with the Hand thro' their whole Extent. The Water which is poured upon it, when the Gardeners plant in the Spring-Season, dilutes the Soil, and causes it to descend and enfold the Roots; but when they plant in Autumn, they are discharged from the Labour of Watering, by the Winter-Season, which will always be sufficiently liberal in that Particular.

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THE
APPENDAGES
TO AN
OLITORY.

DIALOGUE VII.

The Count. *The Chevalier.*

Count. **T**HESE, my dear *Chevalier*, are the Memoirs the Prior has sent us for our Entertainment, while he is obliged to be absent for a few Days.

Chevalier. I see they relate to grafting and pruning of Trees; and as this is a Work already completed to my Hands, I shall add it to the Papers that contain my former Remarks.

Count. We will have the Pleasure of reading it together: But before we proceed to the Cultivation of Trees and esculent Plants, I would acquaint you with some Appendages that are necessary to an Olitory, to aid it in its Functions, and to preserve its Productions. Have the Fruit-Garden, the Orchard, the Nursery, and the several Sorts of Green-Houses been described to you?

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Chevalier

Chevalier. I only know them by Name.

The Fruit-
Garden.

Count. Let us begin with the Fruit-Garden. It frequently happens, that the Walls of the Olitory are far from being sufficient for all the favourable Exposures that may be necessary. Those Fruits which are ripened with Difficulty are not the only Productions that need the Espalier: The Peach, without that Assistance, would neither be shaped nor coloured as we could wish. The most excellent Species of Pears, as the Beurre, the Burgamot-Crasane, the Saint-Germain, the Virgoleuse, and several others, are too large to be fully exposed to the Wind, because they will fall with the least Shock. Early Cherries, White Primordian, and Violet Perdrigon-Plumbs, will only thrive on Espaliers.

In order to secure a Quantity and Succession of those Fruits we are desirous to obtain, it will be proper to reserve a Piece of Ground, like this before us, on one Side of the Olitory, and where the Appearance of Regularity is altogether unnecessary. It should be chosen with an Aspect to the *East* or the *South*, and sinking, if possible, into a gentle Declivity. Several little Walls must be raised seven or eight Feet in Height, and which, in Conjunction with the general Enclosure, will form Positions of all Kinds. They ought likewise to be so near each other, as to concentrate a glowing Heat, and at the same Time to be disposed at such a mutual Distance as will prevent them from shading each other. The additional Conveniencies of shelving Roofs, and Coverings of Straw, will easily preserve the Fruits from chilling Frosts and Storms of Hail; and we may be certain of gathering all Sorts of Fruits of a most engaging Beauty, and even in those Years when a Dearth reigns in every other Part.

The Orchard is the second Appendage to an Olitory; and we may take a Walk in this, if you are so disposed, Sir.

Chevalier. As rustic as it appears, I think it exceedingly agreeable; but if the Fruit-Garden be such a sure Revenue, what should prevent it from being enlarged, since it would certainly be preferable to an Orchard?

Count. The Orchard is appropriated to those large Trees which we can't conveniently be without; and the General

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lity of Fruits appear more amiable, and are enriched with finer Flavours, when they grow naturally in the open Air, and on Trees of lofty Stems; whether a free Circulation of Air be most advantageous to them, or that the Sap of a Tree which has never been pruned, by being distributed into a greater Number of Branches of all Dimensions, aids their Fertility, and produces a Growth of more delicate Fruit. But as the lofty Trees, which we have so much reason to multiply, are commonly productive of bad Effects in an Olitory, where their Shade may be injurious to the Herbage and Espaliers, they are consigned to the Orchard, where we generally plant those Pears that are much esteemed for their melting Pulp, and would be apt to grow mealy and insipid on an Espalier, for want of a Free Current of Air. Such, for Instance, are the Dean's Pears, the Bessy de la Motte, and the Green Sugar-Pear.

We likewise consign to the Orchard all those Pears, whose immoderate Size preserves them from being injured by blustering Winds; and Pear-Trees succeed better in that Situation, than when they are contracted into Dwarfs, or disposed along the Espalier. The *Neapolitan* Medler, the Filberd, and some Mulberry-Trees, have also their Places assigned them in the Orchard, to furnish us with Variety in each Season.

Chevalier. I wish your Lordship would inform me, why the Arrangement of the Trees is interrupted toward the End of the Orchard, where I observe a Multitude of Plants crowded thick together?

Count. You are looking upon the Nursery, whose Function is to recruit the Orchard, the Fruit-Garden, and the Olitory. The Nursery.

We there raise a numerous Progeny of young Plants, which are reserved to supply whatever we are obliged to root up in any other part. Some of these Plants are propagated from the Kernels, or Stones of Fruits; and though, when they are advanced in their Growths, their Productions may be excellent, they will yet be something wild in their Nature; and we shall find it necessary to reform them by the Graft. Others have been raised from Shoots, or Slips, cut from wild Stocks in the Woods, and whose Fruits have a harsh Flavour. A third sort are the wild Stocks themselves, improved by Grafting, in the manner you will find de-

scribed in your Memoirs. The Generality of these last are earthed in Baskets; but do you know for what Reason, Sir?

Chevalier. I think I recollect it, my Lord. It is in order to have a Tree ready formed, and in a Condition to be transplanted into the Place of one that is decayed; by which Means the Vacancy may be filled without any Delay, and we are in no Danger of being deceived. But I should be glad to know whether the Choice of a Tract of Ground for the Nursery requires any peculiar Attention?

Count. If the Soil should happen to be lean and unsubstantial, its Productions will be weak and languishing, and their Indisposition can never be remedied. On the other hand, it ought not to be extremely rich, or manured to any considerable Degree; and its Quality should be a Medium between those Extremes. It ought to be inferior in some Degree to the Soil, into which the young Trees are afterward to be transplanted, that the Transition from one to the other, which is apt to impair them, may be speedily retrieved by the Goodness of a new Aliment, and that they may not degenerate by passing from a good Soil, to one that is less so.

While the young Plants are in the Nursery, they are confined to a contracted Space, and must be governed by very strict Rules. They are disposed in Lines three Feet distant from each other; but the youngest are planted still closer, that we may be as sparing of the Ground as possible, and likewise that we may invigorate their Stems, by not permitting their Foliage to expand in full Liberty. When they are habituated, by the Constraint of this first Culture, to the Form we proposed to give them, they are allowed a more honourable Rank among Trees of an advanced Growth; and instead of languishing when they leave their soft Situation, they are seen to improve immediately after their Transplantation from the Nursery, and then experience the Advantage of a free Air and a good Establishment.

I believe it will now be proper for us to turn back toward the House.

Chevalier. Your Lordship makes our Walk a little of the shortest To-day.

Count. I have no Intention to leave you as yet, Sir, but am willing to let you see the different Repositories that are necessary

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necessary to preserve the Productions of the Olitory. The first that occurs to us on this Occasion is the Fruiterie. Several Expedients have been resorted to for the Preservation of Fruits as long as possible; and I believe there are Secrets for the Accomplishment of that Design: But till some Person shall please to favour us with the Discovery, if they indeed be real, we must content ourselves with the Fruiterie, as the best Contrivance we have at present, for the Preservation of our Fruits through all the Months of the Winter-Season, in which they were intended to regale us. You are sensible that they ripen successively in the Place where we store them.

Chevalier. By what Means can a Fruit, which no longer grows on the Tree, acquire any better Qualities than what it received from the Soil and Sun-shine?

Count. It does not acquire any thing new, and the Maturity it obtains in the Store-room is only a Modification of what it already enjoys. I fancy I can account for the Cause. The Fruit continues to be impregnated with several Particles of Air, which operate by their elastic Power, and their Efficacy is very considerable, when they are either compressed or expanded in Proportion to their being affected by the Impressions of the external Air; but their Efforts are very languid, when they cease to communicate with the Atmosphere without. The Air which is inclosed in the Fruit must necessarily act upon the Sap, whose Cohesion it breaks by Degrees, and occasions a perfect Intermixture of the Salts and Oils; after which it smooths off the jagged Points of the one, by the soft Occursions of the other, and produces in Time a Flavour which is neither poignant nor insipid, but an agreeable Combination of Sweetness and Acidity, which constitutes the Perfection of the Fruit. When this Period is once past, the palatable Parts of the Fruit are dissipated by insensible Evaporation; and what remains is only a gross Substance fit for nothing but to be thrown away. In order therefore that Nature's Care, to enrich the Winter with different Degrees and Successions of Ripeness in the Fruits she reserves for that Season, may not be rendered ineffectual, we find it necessary to prepare a Repository, to secure them from the Impressions of the external Air, which, as we are sensible by Experience, is too precipitate in completing their Maturity, and causes them

too suddenly to exhale the fine Particles that supplied them with their delicate Flavour.

Chevalier. The Fruiterer then must needs be shut up as close as an Ice-House.

Count. It ought to be furnished with substantial Walls to render it useful; and it should neither be in a Granary, where the Air is abundantly too cold, nor in a Cellar, where it is as much too moist; but it ought to be in a dry Place, where the Floor should be even with the Ground, and the Windows turned to the *South*: There should likewise be good Shutters and double Doors, beside which, a double Fold of Curtains should be drawn round the Room; otherwise the Humidity will rot one Part of the Fruit, and the Frost decay the other. I have caused mine to be furnished with large wooden Presses for the better Security of the Fruit, and they have succeeded perfectly well. The usual Custom is to have Shelves border'd with a Ledge, to prevent the Fruit from falling. These Shelves are likewise disposed in a Slant, which from Time to Time gives a View of all the decayed Fruit, which ought to be thrown away for the Preservation of the rest. A Shelf without a Covering is prejudicial to the Fruits, which then are apt to roll against each other, and putrify by Contact. They are likewise for the most Part heavy enough to be injured in the Part where they press upon the Wood; and, on the other hand, the Straw and Fern, which are usually spread under them, frequently infect them with a disagreeable Flavour. Sand easily impairs them by the Humidity it contracts in the Shade; and nothing has been found so serviceable, as Moss gathered from the Stems of Trees, and well beaten, after it has been dried in the Sun. The Fruits sink gently into a Bed of this Nature, which sustains them with a commodious Softness; and we may then visit and touch them, without any Danger of rolling them upon any other Fruits that are near them.

Chevalier. We preserve in our House for a considerable Time, and even till the Winter be very far advanced, all Sorts of fine Pears by wrapping them up in Sheets of thick Paper twisted over the Stalks. The Fruit is then ranged on Hurdles, in order to preserve it from Air and Moisture.

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Count. This is certainly a very good Expedient, and it preserved me a Parcel of Virgoleuse Pears about a Month ago.

Chevalier. Will your Lordship be so good as to let me know the Use of those Bags that are hung up in the Middle of the Fruiterie?

Count. They are different Parcels of Seeds which will be used in the remaining Part of the Spring, and likewise in the Summer-Season. The Name of the Seed is inscribed on each Pacquet, and the Whole may be recurred to without any Confusion.

A second Repository, and altogether as useful as the other, is that where we preserve our Roots and esculent Plants.

This is usually a vaulted Cellar, the Avenues and Spiracles of which are exactly closed up, during the Seasons of Frost and Humidity. The Winter Herbs and Roots are preserved in Beds of Sand, which cause Celery and Endive to whiten and enlarge their Growth. We may even raise a Vegetation of Mushrooms on those Beds, which, being intermixed with Manures that have been exposed to the Air, generally contain several of the imperceptible Seeds of Mushrooms, which have been waisted by the Wind into a Variety of Situations.

Chevalier. This may be properly called a Winter-Garden.

Count. We there can imitate the Favours of the Spring, and we likewise prolong those of Autumn as much as possible.

A third Repository is the Green-House, where, during the Winter-Season, we lodge our Orange, Pomegranate and Fig-Trees, together with Laurels, and all the usual fruitful or flowering Shrubs that abhor the Cold. These Plants correspond very well with the Air of our Climate; and it is sufficient if the Green-House be well closed and turned to the South, in order to receive the Warmth of the Sun through the glazed Windows, and even to admit the Air from Time to Time when its Gales are soft and favourable.

Chevalier. Would not a Chimney be commodious in the Green-House, when the Winter happens to prove severe?

Count. Neither that nor a Stove would be proper. The coldest Air would descend through the Vents of the Chimney

may and freeze some Plants, while others near the Fire would be scorched. The Sparks might even set Fire to the Boxes of Plants, and the Mats that are hung upon the Walls to preserve them from Humidity. The Smoke which would almost be inevitable, is extremely injurious to all Verdure, and frequently to the Plant itself. In a Word, there is no Equality in this Method, for should the Fire decay or be extinguished, the Plants which have then opened all their Pores to a Warmth that refreshed them, will be more obnoxious to the Severity of Frosts, than they would had they been left without any Fire at all. The surest Expedient therefore, is to keep the whole Place well closed up from the external Air, and to cover the Windows with double Lays of Straw when the Cold is very violent*.

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* The Translator thought it necessary to acquaint the Reader with the Sentiments of the ingenious Mr. Miller, with Relation to Green-Houses; and the following Passage which is transcribed from his Gardener's Dictionary will not be unacceptable to the candid and judicious, tho' It happens to differ in some Particulars from our excellent French Author.

Under the Floor, (*of the Green-House*) about two Feet from the Front, I would advise a Flue of about ten Inches in width, and two Feet deep to be carried the whole Length of the House, and it may be returned along the back Part, and be carried up in proper Funnels adjoining to the Tool-House, by which the Smoke may pass off. The Fire-Place may be contrived at one End of the House; and the Door at which the Fuel is put in, as also the Ash-grate, may be contrived to open into the Tool-House, that so it may be quite hid from the Sight and be in the dry; and the Fuel may be laid in the same Place, whereby it will be always ready for Use.

I suppose many People will be surpris'd to see me direct the making of Flues under a *Green-House* which have been disus'd so long, and by most People thought of ill Consequence; as indeed they have often proved, when under the Direction of unskilful Managers, who have thought it necessary, whenever the Weather was cold, to make Fires therein. But however injurious Flues have been under such Mismanagement, yet when skilfully managed, they are of very great Service: For tho' perhaps it may happen that there will be no Necessity to make any Fires in them for two or three Years together, as when the Winters prove mild there will not, yet in very hard Winters they will be extremely useful to keep out the Frost, which cannot be effected any other way, but with great Trouble and Difficulty.

Withinside of the Windows in Front of the *Green-House*, you should have good strong Shutters, which should be made with Hinges to fold back, that so they may fall quite close to the Piers, that the Rays of the Sun may not be obstructed thereby: These Shutters need not to be above an Inch thick or little more, which, if made to join close, will be

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Chevalier. I have seen a Stove used in a Green-House at Versailles.

Count. That, Sir, is a fourth Species of Conservatories, and only fit for those Persons who are extremely rich and curious, or for Gardeners, who can make the Profits of it a Compensation for the Expence.

An equal Degree of Heat is preserved in it for six or seven Months, by the Aid of Stoves placed in the Middle, and at the Extremities of the Building. This Green-House should entirely front the South, and if it be formed into a Semi-Circle, it will center the Heat of the Sun from Morn to Evening, better than if it were disposed in a strait Line.

The Walls should be thick to prevent the Penetration of Cold, and it will be necessary to have them white-washed within, the better to reflect the Light that colours and enlivens the Plants. The Structure is but of a moderate Height, that the Body of Air to be heated may not be too considerable; and its Depth is narrow, that the Sun-beams may play upon the back Wall.

sufficient to keep out our common Frost; and when the Weather is so cold as to endanger freezing in the House, it is but making a Fire in your Flue, which will effectually prevent it: And without this Convenience it will be very troublesome, as I have often seen, where Persons have been obliged to nail Mats before the Windows, or to stuff the hollow Space between the Shutters and the Glass with Straw; which, when done, is commonly suffered to remain till the Frost goes away; which, if it should continue very long, the keeping the *Green-House* so closely shut up will prove very injurious to the Plants. And as it frequently happens that we have an Hour or two of the Sunshine in the Middle of the Day in continued Frosts, which are of great Service to Plants, when they can enjoy the Rays thereof through the Glasses, so when there is nothing more to do than to open the Shutters, which may be performed in a very short Time, and soon shut again when the Sun is clouded, the Plants may have the Benefit thereof whenever it appears; whereas, where there is so much Trouble to uncover, and as much to cover again, it would take up the whole Time in uncovering and shutting them up, and thereby the Advantage of the Sun's Influence would be lost. Besides, where there is so much Trouble required to keep out the Frost, it will be a great Chance if it be not neglected by the Gardener; for if he be not as fond of preserving his Plants, and as much in Love with them as his Master, this Labour will be thought too great by him: and if he does take the Pains to cover the Glasses up with Mats, &c. he will not care to take them away again until the Weather alters, so that the Plants will be shut up close during the whole Continuance of the Frost, *Miller's Gardener's Dictionary. Article, Green-House.*

All the Southern Front ought to be a Range of Windows, accompanied with strong Curtains, and with as few Piers as possible, that the whole may be equally closed, and equally presented to the Sun, without any Interruption of Shade.

The Funnels of the Stove are carried along the inside Length of the Walls, but the Stoves are supplied with Fuel from without, and are built in the Substance of the Masonry, so that neither Fire, Sparkles or Smoak, can have any Admission within.

In order to warm the internal Air in a sure and regular Manner, it will be proper to erect over the Stove a little Chamber or kind of Furnace, which would be filled with Flints, and ought to communicate with the outward Air by the Intervention of a Tube, and with the interior Air of the Green-House by another Canal. The Stream of external Air, which is admitted into the Furnace, becomes hot by its Continuance there, and likewise by its flowing over the burning Flints, after which it is distributed through the Conservatory in such Quantities as are judged proper by turning a Cock. The Influx of Air is adjusted by the Thermometer; in Consequence of which, any Excess of Heat is corrected by the Admission of as much cool Air as is thought necessary; by which Means the whole Place may enjoy such a Temperament of Air as corresponds in a great Measure with the genial Warmth of the fine Days in Summer.

At a little Distance from this Place I have contrived a Green-House in Miniature; and, instead of a solid Building with a pompous Sash-work in Iron Frames, I contented myself with bestowing Masonry on the Northern Part, while the three other Sides and the Roof are composed of strong wooden Frames painted in Oil.

You may there see the Stove which is supplied with Fuel from without; but, instead of having recourse to this, or to any Work of Masonry, we may form a Lodge of Glass-sashes over a Bed of Earth. The whole may be covered with Mats, when necessary, and at other Seasons it may enjoy the Sunshine through the Glass, which will confine the Warmth to it for a considerable Time.

Chevalier. I am surpris'd beyond Expression, for I discover through the Sashes several Clusters of Grapes already formed, though the Vine be not yet in its Bloom.

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Count. Let us walk into this Conservatory, and take a view of its Curiosities. The first Use of this Place is to preserve those exotic Plants that are incapable of sustaining the Severity of our Air, in a common Green-House. You may observe some Plants of this nature which I have collected with Care. I have the *Torch-Thistle*, the *Euphorbium*, the *Coffee-Tree*, the *Fig-Marygold**, the *Aloe*, the *Pine-Apple*, and some *Balm-Trees*.

The second Function of the Green-House with a Stove is to furnish us with Novelties, such as beautiful Flowers and ripe Fruit, much sooner than their common Season. For instance, we extend into the Green-House two or three of the finest Branches of a Vine, whose Stock is planted without; and when the exterior part of the Vine begins to bloom at the close of *May*, or in *June*, the green Grapes, which you observe within, will be black, and ripe enough for eating. This Expedient enabled me to entertain you to day at dinner, with a Plate of Figs that received your Approbation.

Chevalier. And yet it will be two or three Months before we shall gather them in their natural Season, for they are never ripe till *July*.

Count. When the Frost begins to check the second Growth of Figs, in *September*, I intend to shelter the Tree in the Conservatory, and we may possibly prolong the Enjoyment of this Fruit to the End of Autumn.

The Fruits that are here produced are frequently aided by the Aspect of the Sun, and the Influence of the Air; and they regale us with a very agreeable Flavour. The Flowers likewise that spring in the same Situation refresh the View with Colours of a lively Glow. The Industry, by which we are accommodated with these Novelties, has been transmitted to the Gardeners by the Curious. It is no longer an unfertile Amusement, but redounds to the Advantage of the Publick.

Chevalier. Does not your Lordship take this Method of Culture to be a Force upon Nature?

Count. No, Sir, it rather aids her in her Operations. When our Plants are scorched by immoderate Heat, we refresh them with frequent Waterings; and Nature suffers no Compulsion by this Proceeding. On the other hand, when they

* Ficoides.

are chilled by Frost, we recall them to Life by a redoubled Warmth, transfused through Glass Bells and Sashes; and Nature is no more forced by this Method than she is by the other.

Chevalier. I observe another little Piece of Building join'd to the Side of the Green-House.

Count. The Gardener there deposits all his Tools and Implements, as well as the Springs, Traps, Scare-Crows, and other Instruments of Hostility, which he employs against the Enemies of his Labours.

Chevalier. Will your Lordship permit me to destroy the Worms, and Snails, and Caterpillars, with all the other Insects that infest the Garden?

Count. That will be undertaking a very considerable Affair, Sir.

Chevalier. I shall acquit myself in a punctual Manner; for nothing more is necessary, than to leave the Garden to the Care of a few Lapwings, or Plovers, after the large Feathers have been pluck'd from their Wings; your Lordship will see them employ'd, from Morning to Night, in keeping the Gardens neat as possible.

Count. Your Observation is just, Sir: I had some of those Creatures for several Years past, and they really performed Wonders; but I have been deprived of these Servants by Birds of Prey.

Chevalier. I know a Gentleman who takes even a better Method than this. He has a Breed of Domestic Storks, that were sent to him from *Germany*, and they are disposed in a Nest which is fixed in the Middle of a Vessel, formed with two Iron Hoops, and placed on a Pedestal, fasten'd to the Top of the Turret where the Weather-Cock turns. The Storks are attentive to all that passes below; and, as their Sight is very penetrating, they discover the Motions of a Dormouse, the Labours of a Mole, the gliding of a Snake, and the Trip of a Lizard; upon which they immediately dart upon them, and they always train up their Young to the same Hostilities.

Count. These Birds will take off Abundance of Trouble from the Person who entertains them.

Thus have I acquainted you, my dear *Chevalier*, with the first general Principles that will enable you to form a Garden in a proper Manner; let us now proceed to the Method

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Method of shaping a Tree; and, if you please, we will seat ourselves in this Place, while you read over the Memoirs you have received from the Prior.

Chevalier. I will begin with the first that occurs.

Observations on GRAFTING.

OF all the Operations in Gardening, there are none but what are honourable in their Nature, and amusing to the Imagination; but those that are most worthy of our Curiosity are Grafting and Pruning. The former is the easier of the two, but we must likewise allow it to be the most astonishing. Pruning is indeed more difficult, but it certainly constitutes the real Merit of a Gardener.

Grafting is performed in seven or eight different Manners, a just Idea of which will be sufficient at first; and we may reserve for the practick Part a particular Detail of each Precaution, necessary to be observed in that Branch of this Science.

The most ancient Manner of Grafting is performed, first, by lopping off all the Head of a Tree, or only one of the main Branches; secondly, by cleaving the Stock with a strong Knife, which ought to be driven in with a Mallet; thirdly, by opening the Cleft to some Depth by Means of a Wedge; and, lastly, by inserting into the Stock a Branch cut from a Tree of a kindly Nature, and impregnated with at least three good Buds, which are so many Knots or Tumours; each of which enfolds a little Pacquet of Leaves. The Extremity of the Graft should be cut smooth and even on both Sides; after which it ought to be placed in the Cleft in such a manner, that the Bark of one of its Sides, at least, may exactly coincide with the Bark of the Stock that receives it.

This * Disposition is absolutely necessary, because the Incorporation of the Graft with the Stock is accomplished by the mutual Union of their fine Barks. This Bark is composed of several thin Rinds, or Films, drawn in Circles over each other, and the first Round is disengaged from the rest in Spring; at which Time it swells into a more substantial Texture, and forms the new Circle of Wood which is an-

* Philosophical Transactions, abridg'd by Lowthorp, Vol. II. p. 675.

usually acquired by the Tree. The Fibres that constitute the inward Rind of the fine Bark being cut in those Parts where the Stock and Scion are joined, the Orifices of the one open into those of the other; in consequence whereof, the callous Substance, which is there formed, unites several Canals of the Trunk with those of the Graft. Other Canals are interwoven with each other, and the two Films so different in their Natures are consolidated into one Substance. But when this Conjunction is not accomplished, under the fine Texture of Rind, it must never be expected, either in the Wood already formed, and which then ceases to be supple, or in the gross Bark, which is altogether as impliant as the Wood.

When the Insertion is compleated, the Cleft should be covered with Chips of Bark, in such a manner as to exclude all Penetrations from without. This Covering of Bark should be coated over with a Composition of Wax and Pitch melted together, or a Mixture of Clay, with a small quantity of Straw; and the whole must be swathed over with Cloth, to prevent the Admission of Rains, and parching Air. This is what we call Grafting in a Cleft.

The first Cleft may be crossed or traversed by a second, in order to insert four Scions instead of one; but Care must always be taken to unite the Bark of the Scion with that of the Stock. This is called Cross-Grafting, but the Operation is the same with the other.

If the Trunk be too thick so as to create just Apprehensions of its being too much shocked by opening a Cleft, the surrounding Bark must then be separated from the Wood, in several Parts, by the Insertion of a small Wedge; after which we may sink into the open'd Circumference eight or ten Grafts, each of which should have four or five good Buds, and their Extremities are to be shaped and flatted in such a manner as will best adapt them to their several Apertures. The whole must be covered over like the Graft in Cleft; and this is what we call Crown-Grafting *

Sometimes, instead of inserting the Scions into a Cleft, or between the Wood and Bark of large Stocks, an Inci-

* It is likewise called Soulder-Grafting, and Grafting in the Rind. The Appellation of Crown-Grafting is given it, because the Grafts are set in form of a Circle or a Crown.

sion of some depth is made with a Joiner's Chissel in the Bark, and likewise in the Wood; and when the Piece is taken out, the End of the Graft must be exactly adjusted to the Cavity, by which means the two Barks acquire an intimate Conjunction; and this is called *Whip-Grafting*. These three Operations, the first of which is most in use, are performed in the Months of *March* and *April*, when the Sap begins to rise in a copious Flow.

Two Branches are sometimes chosen in the Month of *May*, one growing on a wild Stock, and the other on a Tree of a kindly nature, and they should both be exactly of the same Thickness. Each of them is left on its proper Stem, and it will be necessary to shorten both: After which, the Gardener makes a circular Incision in the good Branch, and pares off a little Tube or Ring of Bark, which will be of a sufficient Length, if it contains two good Buds. The wild Branch must be divested of its Bark, and while the Wood continues moist, it must be inserted into the hollow Tube which encloses it like its Native Bark. The Extremitie of this Insertion may be covered with tempered Clay, or thin Chips rolled into a circular Bandage upon the edge of the Bark. This Operation is called *Flute-Grafting*, because it resembles the usual Practice of Children, who, in the Season when the Sap rises, strip the Bark from a Branch, in order to form it into a Flute; and it is appropriated in a more particular manner to Chesnut and Fig-Trees.

The fifth manner of Grafting is more generally practised upon Stone-Fruits; and this Operation is performed by cutting from a good Tree a small triangular Piece of the Bark, whose Length must a little exceed its Breadth, and in the middle of which, the first Appearance of a Branch with the Traces of one or two Buds should be seen. In paring off this Bark it is usual to slide the Blade of the Pruning-Knife under it, in order to cut the little knot if that it should be necessary, together with a small Quantity of the Wood: not that this last can be for any Advantage in causing the Graft to take, but this Precaution is used to prevent any Hazard of missing the Knot, and we may be certain it is secure when it adheres to the Bark: but if it should

Escutcheon-Grafting, or Inoculation.

should be separated from it, no Bud will be found. This Knot is the whole future Tree in little.

The Person employed in this Operation holds the triangular Bark in his Mouth by the Extremity of the little Branch, to prevent the Saliva from being detrimental to the Sap; and at the same Instant makes an Incision, in the Form of a T, in some smooth Part of the wild Stock or Tree that is to be meliorated: After which he raises and removes the Lips of the upper Aperture with the flat End of the Handle of his Pruning-Knife, and then slips in the triangular Bark, causing its longest Point to descend, till it arrives at the Bottom of the T, and is covered on every Part except the Bud, which is suffered to project outward. Some Gardeners have made successful Attempts to inoculate in another manner. They apply the triangular Bark of a kindly Nature to the Bark of a wild Stock, and cut in this latter another Triangle of the very same Dimensions with the other; after which they raise it up, and remove it from its Place, and then insert the other Bark, which contains the Eye or Branch of the better Species.

The Barks are gently treated, and qualified for uniting with each other, by binding them with several Rounds of Woofsted, and then the Whole is compleated. Woofsted is preferable to hempen Thread, which is too inflexible, and prevents the Bark from dilating with due Freedom. This is called Escutcheon-Grafting; because the pointed triangular Bark very much resembles the Shield of our ancient Knights; and, in order to succeed more effectually, instead of a single Escutcheon, it is usual to insert one on each of the two opposite Sides of the Tree.

Permit me, my Lord, to discontinue my Reading, while I inform myself, from your Lordship, whether this Observation agreed with *Virgil*. I find, by the *Prior's* Account, that a smooth Part of the Bark should be chosen for the Insertion of the Shield-Graft; whereas *Virgil* declares in his *Georgics*, which I have lately read, that the Surface of the Bark should project in several Knots, and that the Aperture ought to be formed in the Middle of one of these*.

* ——— qua se medio trudent de cortice gemmæ,
Et tenues rumpunt Tunicas, angustus in ipso
Fit nodo sinus: huc aliena ex arbore germen
Includunt, udoque docent inolescere libro. *Georg. 2.*

*Amidst the Bark, where the emerging Gem
Rends its soft Foldage, and surmounts the Stem;
In the firm Knot a slender Channel sunk
Receives a Bud from some selected Trunk;
Rears its young Charge, and from its humid Womb,
Imparts the Vitals of its future Bloom.*

Count. *Virgil*, like all the Gardeners of his Time, thought this Precaution necessary: but Reason and Experience have now convinced us of its Inefficacy. It is not the Knot of the wild Stock, but that of the Graft, which is to be the Agent in the Production of a new Tree; for which Reason it is altogether unnecessary to perform the Operation on the Knot of that wild Stock.

Chevalier. I now return to my Memoirs.

If the Inoculation be performed in the Summer Season, when the Tree is impregnated with a copious Sap, it is customary to cut off the Head of the wild Stock, four or five Fingers above the Escutcheon, that the Sap may flow over it, and promote its proper Operation: This small Remainder of the wild Stock is likewise left above the Place of Inoculation, to prevent the Sap from suffocating the Graft, and that it may be distributed among a Set of other Buds, whose Number may be lessened at pleasure; and this is distinguished by the Name of Shoot-Grafting.

When the Inoculation is deferr'd to the Month of *August*, or the Autumn Season, The Dormant it will then be improper to accelerate the Graft. Graft, and theefore it is permitted to be dormant, or at least to act in a languid manner; in order to which the Head of the Tree is not lopt off till the succeeding Spring, when the Sap will be renovated and give Indications of Life. This Practice has the Appellation of *Dormant-Graft*, and these two last Manners of Grafting are always the same as the Escutcheon.

A sixth Method of Grafting and which is only practicable on two Trees that rise at a little Distance from each other, is performed by opening a Cleft in a Branch of a Tree we dislike, in order to insert into it the End of a good

Grafting by Approach.

Amidst

good Branch, which is suffered to continue on its proper Stock; and the Wound should be covered with Wax and a Bandage of Linnen Cloth. It is customary to wait a reasonable Time, in order to be certain that the two little Portions of Bark are incorporated into one Substance; the good Branch is then sever'd from its Stem, to divest it of the Sap it would otherwise derive from its Parent-Tree, and that it may be sustained by the Aliment it imbibes from the Stock into which it is inserted, and which is divested of its own Wood, that it may derive a new Head from the grafted Branch. This Operation is called *Grafting by Approach*, or *Ablatation**, and is much practised on Trees reared in Boxes, which may be placed as near to each other as we please.

It has been the Opinion of some learned Men, that the Circulation of the Sap in Plants is performed like that of Blood in the Bodies of Animals, through a System of Canals, in which a Number of Valves are open to afford a free Current to the Fluid that impels them; after which they close up the Passages to prevent its Return. It may be difficult to disprove the Ascent and Reflux of the Sap; but the Success of Grafting by Approach seems to demonstrate, that there are not any Valves in the Channels of Sap, since it flows, without the least Obstruction, into the inverted Graft. These Ducts therefore of the Sap are a Set of capillary Vessels, through which that Fluid ascends, in what Position soever they are presented to it.

Grafting by Approach may likewise be accomplished by other Methods. Instead, for Instance, of inserting the End of one Branch into the Cleft of another, they are capable of being united by an exact Coincidence of two small Incisions, perfectly corresponding with each other, and cut in the two selected Branches. These may be crossed over each other, or bound together at their Extremities, after they have been cut in such a manner as the one may lie exactly over the other. It is not material in what Manner they are joined, provided the inward Bark of the Graft touches the interior Bark of the Stock. When their Union is completed, the Sap, by swelling the Vessels of the external Bark, will form a Tumour around it, which will insensibly cover the Wound. The good Branch may then be

* It is likewise called *Inarching*.

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separated from the Mother-Plant, and there is this Advantage in Grafting by Approach, that the two Branches equally contribute to the Incorporation, by the reciprocal Concourse of their Sap.

The *English* and *Dutch* have lately had Recourse to a Method which has not as yet been established among us. It consists in Grafting a fine fruitful Branch upon a Stock of Roots; to which Effect they chuse one of the large Roots of a Tree, whose Nature corresponds with that from whence the Graft is to be taken. The * Root is cut into several Divisions, in each of which a Graft is inserted, agreeably to some of the preceding Operations. When a Tree happens to be vigorous, you may take from it a Root large enough to furnish twenty or thirty Stocks; and if the Practice of Root-Grafting were authorized by sufficient Experiments, and had been advanced to a Certainty of Success, we might at once plant a Root and its Graft in the Place where the Tree itself should grow; whereas in all the former Operations, there is commonly a long Interval of Time between Grafting and Transplanting.

Root-Grafting.

A Tree may likewise be grafted on its own Stock, in Conformity to some of the Methods already represented; and when one of its Branches has been inserted into its Trunk, you may likewise graft one of its Shoots upon that Branch, and the Fruit will acquire a finer Degree of Delicacy, tho' I am unable to account for the Cause.

It is not sufficient to understand the Art of Grafting, and to be capable of adapting the properest Method to each Plant: The Article of the greatest Importance is to know what Stock is most agreeable to each Graft; but the whole may be referred to very simple Principles.

Pears are grafted either on Stocks of their own kind †, or on a Quince-Tree. Those Grafts, that are intended to be fully exposed to the Wind, should be inserted into a vigorous Stock, which, by penetrating very deep into the driest Soil, secures its Roots from being injured by the Drought that reigns about the Surface.

The Manner of Grafting Pears.

* The Art of Husbandry, by J. Mortimer.

† Memoirs de M. le Normand.

‡ These the Gardeners call Free-Stocks.

Those

Those Shoots that are to be formed into Dwarf-Trees, or Espaliers, ought to be grafted on a Quince-Tree, which shoots to a moderate depth of Earth, and slides its Roots between two Stratas of Soil; it likewise delights in a cultivated Ground, bears in a short space of Time, and produces better Fruit than a Scion grafted on a Free Stock, unless it be very old.

Apples are grafted on a Crab-Tree raised from a Slip, or a Kernel; and likewise on a Codlin, and Paradise Stock.

The Crab-Tree that has been raised from a Kernel is a slow Plant, but very vigorous, and it lives for a considerable Time. It is also employed in the Production of Standard-Pear-Trees.

The Paradise Stock shoots out but a few Roots, and a small quantity of Wood: It is soon fruitful, but is not of any long Duration; it is likewise formed into Dwarf-Trees, in those Places where the View ought not to be intercepted.

The Codlin-Tree is a just Medium between these two, with respect to its Height and Duration; but is more proper to be shaped into a fine Dwarf-Tree. Grafted Apple-Trees succeed in Soils that are but indifferent, and where the Pear-Tree would languish for want of Humidity.

Cherry-Trees may be grafted with Success, into Stocks of the black, or wild red Cherries. They are commonly inoculated, and before

Midsummer. The *Neapolitan* Medlar is grafted upon a *White-Thorn*.

All kinds of Plumbs are propagated either by Cleft-Grafting, or Inoculation on wild Plumb-Stocks, raised from Slips, or the Stones of that Fruit.

Apricots and Peaches are commonly inoculated either on an Almond, or Plumb-Tree. The Roots of the former shoot very deep in the Earth, but those of the a Plumb-Tree never descend much below the Surface, and they extend in Horizontal Lines: The Grafts therefore are inserted into Almond Trees, in Soils that are naturally dry and parching; and where the Roots of the Plumb-Tree would be destroyed by the Drought: Whereas in moist Lands, where

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where the Water rises near the Surface of the Earth, the Peach and Apricot are always grafted on a Plumb-Stock, because the Roots of the Almond-Tree would, by shooting to their usual Depth, plunge into the Water, which would certainly rot them. It may be proper likewise to intimate, on this Occasion, that an Apricot is much more agreeable when it grows in the open Air; though it thrives with much Security on an Espalier, situated to the *South* or the *East*. The Peach requires the same Exposures, especially the *Eastern*; and it delights in a warm and light Soil, like the Apricot.

These are the Principles of the Art of Grafting; but the Diversity of Soils, Positions, and Air, in Conjunction with the knowledge and Experience of each Person, may authorise several Exceptions in the practical Part. As to any other Particulars, the Generality of these Methods are easily put in Execution, and their Success is almost infallible: But as simple as their several Operations may be in themselves, nothing can be more astonishing than the Effects they produce: Not that I am for raising a branching Head of Apples * on a Plane-Tree; or causing a Chestnut Stock

to intermix a Vegetation of Beach-mast with his own Fruit. I would not whiten an Ash with the Blossoms of Pears, nor propagate luxuriant Clusters of Grapes on a Shrub.

These are monstrous Appearances, instead of real Wonders; for as there is not the least Conformity in the Nature of these Plants, such inconsistent Productions will be the mere Effect of Force; their Juices will be disagreeable, and the Fruit can only be consider'd as a barren Novelty. I have an equal Aversion to those fanciful Intermixtures, which some curious Persons are so solicitous to procure in their Gardens; such, for Instance, as a blended Growth of Peaches, Plumbs, and Apricots on an Almond-Tree, and a Variety of different Cherries on one Stock. These Assortments are very practicable on Trees, that have any just Correspondence with their Grafts; but my Admiration is created, when I be-

The surprising
Effects of Graft-
ing.

* —Steriles *Platani* malos gessere valentes,
Castaneæ fagos, ornusque incanduit albo
Flore Pyri.

hold a bad Tree suddenly meliorated, and a good Tree rendered still more perfect*.

A Plant taken from the Wiles of a Forest softens its savage Nature, and will Sometimes divest itself of its Thorns, when it happens to be associated with a Domestic Plant; and even this will be improved by its Commerce with a better Tree. This last will also acquire a new degree of Melioration, when we retrench its Foliage, and graft one of its Scions upon its own Stock. I am delighted to behold a Person employed, amidst the Plants of a spacious Garden, in reforming, by proper Methods, a Growth of natural Wildings; to see him banish one particular Species from his Domain, while he affords a favourable Reception to another, and naturalizes none but useful Subjects. He cultivates mutual Alliances between his Plants, promotes those Adoptions that unite divided Families, and transfers a Dignity to those that were not conspicuous in the Community, till then. He refines Rusticity into Politeness, and infuses a tractable Softness into savage Dispositions. In a Word, our Gardener appears to us with the Air of a Legislator, who is sedulous to civilize a barbarous People.

Count. We will defer the second Memoir to another Reading.

Chevalier. I have a strong Inclination to devote an Apprenticeship to the Art of Grafting; and shall desire the Gardener to favour me with his Instructions.

Count. Let us return to the Seminary; and as to the Gardener's Office I intend to take it upon myself.

* The Tree, strictly speaking, is not changed: A Wild Stock always continues the same, and all its own Productions will be wild after its Reception of a Graft. The inserted Branch likewise retains its natural Qualities, but it receives its Nourishment from its Union with the wild Stock; and from hence results that Growth of good Fruit on a bad Tree, which occasions us to say the Tree is changed, or render'd perfect.

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The COUNT. The PRIOR. The CHEVALIER.

Prior. **B**EFORE the Chevalier places my Memoirs among the rest of his Collection, I am desirous of submitting it to your Lordship's Judgment.

Observations on PRUNING.

Let us quit the Grafting Knife at present, for that which we employ in Pruning; and we will now proceed to this grand Science of the Curious. The proper Method of performing it can only be acquired by repeated Practice, and it opens to us a thousand Resources and Expedients, of which an unexperienced Gardener can, at first, have no Idea. Let us therefore endeavour to render the Principles of

of this Art intelligible, since they are the Basis of various Operations.

There are three Classes of Fruit Trees; Standards, Dwarfs, and Espaliers; and to these I shall confine my present Observations. Counter Espaliers, which were raised Breast-high on a Lattice-Work in the open Air, have been discontinued for some time. Their Productions are seldom perfect, and their Shade is very incommodious to all the adjacent Plot.

It is not customary to prune Standard-Trees, unless in their first Growth, in order to form the Head, and grace them with a pleasing Shape.

It must be acknowledged, that those Fruits which ripen on Standards, in the open Air, have more palatable Juices than those Productions that are matured by the Sun-Beams, reflected from a Wall; but there is one considerable Advantage which attends the manner of raising Fruits on Dwarfs and Espaliers. The Dwarf-Tree preserves most of the salutary Temperament and Fecundity of the free Air. The Espalier presents us with Fruits of a superior Size and Beauty, and preserves its Gifts in a much better manner. These important Benefits are still enhanced by the pleasing Figure of the Tree, and the Air of Regularity diffused through the whole Garden; and they easily induce us to forget some little degrees of Accuracy, which are frequently imperceptible, after all the Pains and Expence that have been employed to procure them.

The Manner
of forming a
Dwarf-Tree.

The Beauty of a Dwarf-Tree consists in the Lowness of its Stem; the circular Expanse of its Branches; a proper Vacuity in the Middle; a well-proportioned Vase; an equal Thickness in its Contour, and an Elevation limited to six or seven Feet. It is suffered to enlarge its Circumference with the utmost Freedom, but we check it in its Ascent. It must likewise maintain a good Correspondence with its Neighbours, and should never incommode them with any incroaching Shade.

In the first Formation of a Dwarf-Tree its Stem should be cut at a little Distance from the Ground, by which Means the Sap will be turned back on the Buds it would abandon, were it permitted to ascend higher. The several Branches

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Branches that compose the Vase, must be extended from the Sides of the Stem; and there are some curious Persons, who dispose their Dwarf-Trees into a very different Shape. They form, for Instance, three distinct Growths of Stages of Verdure, on the Trunk. The first has the greatest Thickness and Expansion, and the other two rise one above another in a proportionable Diminution. This Figure has an agreeable Air, and is said to be as productive of Fruit as any other Form.

In order to train up a fine Espalier, the Tree should have a Stem of a middling Height, if its Branches are to shoot the Top of the Wall; but it should hardly have any, if the Bottom of the Wall is to be covered with its Spread. A large Number of strong Branches ought to be extended from each of its Sides, and at an Equi-distance in order to form an exact Fan, free from all Vacuity, and without crossing one another. In a Word, it must never be permitted to exceed the Dimensions it ought to acquire.

The manner of forming an Espalier.

In order to make the Tree susceptible of this beautiful Form, Care is taken to regulate the Course of the Sap, in a manner as may render its Operations equal on each Side. All useless and redundant Shoots are retrenched, as well on the fore Part as towards the Bottom of the Stem; and if it be necessary to acquiesce with one of the Inconveniences, either of a Vacancy in the Spread, or the mutual crossing of the Boughs, the latter is always preferred, because the cross Position of a Branch is not so offensive to the View as an empty Space.

But as the grateful Air of the Heads is not the only Advantage we endeavour to derive from Pruning, which is more peculiarly calculated to secure a compleat Growth of Fruit; it will be proper to observe the following Method, which is entirely founded on the Nature and Use of different Branches.

Each particular Branch produces others, and the Offspring of a Mother-Bough become Parents in their Turn. Every Branch that hath been shortened by the Pruning-Knife, will shoot out a new one, and generally several towards its Extremity. That which springs at the least

Distance from the End has commonly the best Nourishment and the largest Dimensions; which may possibly be owing to the Air which operates with more Freedom on that part of the Tree. The other Boughs that are generated lower on the same Branch, and nearer the Stem, are proportionably diminished in Substance and Vigour. This is the usual process of Nature, and it can never be inverted without a Detriment to the Tree. The Branches that grow different from the Manner I have described are called Branches of false Wood.

Branches of
false Wood.

This Appellation is likewise given to a Bough that springs from an old Branch, in a Part where no Eyes were observable.

Wood-Bran-
ches.

The large and strong Branches which form the Head of the Tree are distinguished by the Name of Wood-Banches, because they are appointed for the Production of that Substance, and are to serve as a Basis to the Leaves and Fruit.

Fruit-Bran-
ches.

Those that are weak are called Fruit-Banches, because they are commonly productive of the Buds. There is this Difference between an Eye and a Bud; the Eye is a little pointed Tumour, inclosing a Pacquet of Leaves, and the first Rudiments of a Branch: The Bud is a Tumour of a larger Size and a rounder Form, enfolding the Flowers and likewise the Fruits that succeed them.

If we lop off the lateral Wood, as well as that which grows above the little Fruit-Branch, this will soon be rendered vigorous: It will even become a Wood-Branch, and will also defraud the Buds of their Sustenance, instead of causing them to open. But if this Branch be left growing on another that is vigorous and of some Length, the Sap will extend, distribute and refine itself to its last Perfection in a Profusion of Leaves; from whence it flows back much better digested, and more adapted to enter the infinitely delicate Vessels of the Buds. The Fruit always perishes on those Branches that are divested of their Foliage; and the finest Flavours are imparted by

by those Trees that are not deprived of any of their Leaves: The Sap likewise, in its reflux Passage from the Leaves, is so moderate in its Quantity, and of such a fine Consistence, that it hardly gives any visible Enlargement to the Branch that bears the Fruit: This therefore generally dies in the Space of a few Years. These Circumstances incline me to suspect that the Sap ascends directly at first into the Wood-Branche, and never unfolds and nourishes the Fruits till its returning Flow, after it has been refreshed, subtilized, and perfumed in the Leaves. But I only hint at this Process as a conjecture, on which I will not presume to lay any Stress.

Count. You will excuse me, Sir, if I cannot be entirely of your Opinion in this Particular. I am indeed persuaded as well as yourself, that the Leaves are nutrimental to the Fruit; nay, their Use is still more extensive, for they afford an Aliment to the Tree and even to its Roots. It is likewise true, that as the first Juice which the Heat impels to the Extremity of the Branches, in a rapid Ascent, is crude and gross; it is better qualified to lengthen and invigorate the Wood than to open the Buds. I also agree, that a moderate Quantity of Sap by being better digested, and more intimately blended with the volatile Particles of the Air, is rendered more proper to form the Fruit in a short Time, as is evident by the Fruits themselves which are pierced with Worms, and raised to a sudden Maturity. Such Observations as these gave Occasion to the Practice of retrenching several Roots from a Tree that produces too much Wood, without any Fruit. It is certain that a very copious Sap facilitates a Growth of Wood; and that a moderate Quantity of this Fluid is more productive of Fruit. But I much doubt whether these Effects result, as you conjecture, from a regular and constant Circulation. I have made several Experiments which demonstrate the Elevation of the Sap, and have likewise made a Number of others which sufficiently prove its Descent: But these contrary Motions are alternate, if I am not deceived. The Heat of the Day causes the Sap to ascend in direct and lateral Lines; and it transpires thro' the Pores of

The alternate Circulation.

Vegetable Statics, by S. Hales, F. R. S. 1727.

the Leaves to such a Degree, as greatly lessens the Weight of the Tree. At the return of Night and cool Air the Sap has a contrary Motion. The Leaves which dispensed their Exhalations during the Day, imbibe the Dews and Vapours of the Night, and shed the Humidity through their Branches. When the Sap has been recruited and brought to Perfection by the Influence of the Air, it flows back to the Roots; by which Means the Tree and its Fruit repair the Losses they sustained by Day, and are agreeably refreshed. Several curious Persons have from hence been induced to water not only the Stems of their Espaliers and Standard Trees during the Heats, but likewise the whole Growth of Leaves; and they have succeeded perfectly well. With respect to any other Particulars, Sir, as you are not a rigorous Advocate for the constant Circulation, I am as moderate with regard to that I call alternate, and shall now be glad to be favoured with the rest of your Memoirs.

Prior. A right Knowledge of the Branches must be obtained, in order to render the Sap more beneficial, by retrenching such as are useless, and by a prudent Management of those that are good. No

Marks for distinguishing the Branches.

Regard is paid to a Branch, unless it shoots from one that was lopt at the last Pruning; and we as little esteem those that spring immediately from the Stem or from an old Branch, where such a Production was not expected. We even disregard that which is produced by a good Branch, contrary to the common Order of Vegetation; and which is large and vigorous, though it be situated on the lower Part of the parent Branch; and at the same time is small in its extreme Parts. All these Shoots are Branches of false Wood, and as they are not so thriving as the others, it is their common Fate to be lopt off; unless it should happen to be foreseen that they will be necessary to fill a future Vacancy, or that they will prosper better than those that grow in the common Order.

It is not sufficient to distinguish the Fruit and Wood-Branches, from those of the false Wood that are usually retrenched; but it is likewise necessary to have a proper Mark for knowing the good Branches of Fruit and Wood

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Wood from those that are bad. This Mark results from the Quality of the Eyes and Buds, the Complexion of the Bark, and the Vigour of the Branches. If a Branch be extremely incompact, and has its Eyes but little swelled, and very distant from one another, it is called a *ragged Branch*. It is remarkable for its faint Complexion; and as it is entirely useless, it has no Claim to any Favour, and ought to be lopt off.

If a Branch swells to a Finger's Thickness, and is shaped like a Taper, with its Eyes very lank and remote from each other, it is a *voracious Branch*, which drains all the Juices from its Parent in a very unprofitable Manner, and should therefore be cut off. The Wood and Fruit-Branche ought to have their Eyes and Buds well rounded and plentifully nourished; their Bark should be bright and lively, and their Air vigorous, otherwise they are treated with as much Severity as those already mentioned.

When this preliminary Knowledge is acquired, all the Dexterity of Pruning is comprehended in three Particulars; Propriety, Oeconomy, and Precaution. Propriety is requisite in order to form the Tree into a graceful Shape; Oeconomy is necessary for the Distribution of the Sap through every Part; and Precaution must be employed in the Preparation of those Branches that may afterwards be useful.

Propriety is the Method of cultivating the Espalier, or Dwarf-Trees, into a perfect Figure; by retrenching all Luxuriances that introduce Confusion and Inequality.

Oeconomy consists in an equal Diffusion of the Sap on every Side, and in Pruning sometimes long and sometimes short. Pruning in Length is performed, by leaving ten or twelve Inches in a Wood-Branch: Short Pruning suffers no more than two or three Eyes to remain on such a Branch.

Long Pruning is employed on vigorous Trees that are to be rendered fruitful; but if they are pruned short, it will be necessary to leave them a large Number of Branches, for the more effectual Distribution and Correction of the Sap: And when this happens to be the Intention, Pruning is sometimes entirely omitted.

Short Pruning is practised on weak Trees, especially in their first Growth; and we then suffer but few of their Branches to remain; because as none of their Productions have yet been perfect, we leave them but little Wood, in hope that their first Shoots will prove more vigorous, and contribute to the future Expansion of a fine Head.

Oeconomy extends its Operations to the whole Tree, and to each of its Branches. Some Retrenchments confine the Fruit to one particular Part, others diffuse Fertility through all the Plant. When a useless Branch is shorten'd, and cut about the Thickness of a Crown-piece above that which sustains it, the Sap, being then obstructed in its direct Flow, generally causes two lateral Fruit-Branches to shoot forth. When a Tree exhausts itself in Wood, and no longer produces Fruit, or only affords it on one Side, the barren Part must be pruned very short; or it may be necessary to strike immediately at the Source of the Disorder. As the whole Quantity of useless Wood is generated by the exuberant Vigour of the Roots, it is customary to remove the Earth from these in the Spring, and to cut off two or three of the strongest, especially on that Side where the Branches are most productive of Wood without Fruit. As this Operation renders the Sap less redundant, and digests it in a better manner, it then settles in those Parts through which it flowed before, and gently impregnates those Buds of Fruit, which the Rapidity of its former Course, or the Grossness of its Qualities, had caused it to abandon. In what manner soever this Operation is performed, the Reality of the Fact is evinced by Experience; and we have no better Expedient for producing Fruit on a Tree, or any Part of it, that was unfertile before.

Precaution is altogether as necessary as Oeconomy and Propriety; and it consists in forming a previous Judgment of the Branches, and making a distant Provision for filling up all Vacuities in an expeditious manner. It enables us to substitute a new Growth, in the Room of those Branches that are either decayed, or which we find it necessary to retrench; and it likewise teaches us to prefer a Branch of false Wood, when it is more beautiful,

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tiful, better turned, and situated to a greater Advantage than its Companions.

A curious Person, by the Aid of these Principles, and a few prudent Exceptions suggested by Experience, renders his Plants tractable to his Idea of a fine Tree. He commands with the Authority of a Master, and meets with a pleasing Docility through his whole Domain. But, lest he should be mistaken in his Conduct, and find Reason to believe his Plantation less to blame than himself, whenever a fine Sun-shine invites him to walk in the Winter-Season, he re-visits the Plants he has pruned; he frequently reviews the Whole, and criticises his own Proceeding with the utmost Impartiality. He walks with his Pruning-Knife in his Hand, both in Winter and Summer, and meets with a Variety of Circumstances to rectify.

Chevalier. Though, I think, I understand the greatest Part of what the Prior has been so good as to read, yet I must entreat him to oblige me with an Application of his Principles to some particular Tree: Each Remark becomes more intelligible, when the Object is presented to our View. But I am surpris'd to hear, at the Conclusion of the Memoirs, that we ought to employ the Winter-Season in criticising on the Pruning we have bestowed on our Trees; since, if I am rightly informed, Pruning is never practis'd till the Winter is past.

Count. There are some Trees, indeed, whose Pruning must be deferred till all their Parts are put in Motion by the Sap. Such, for Instance, are those Plants that shoot out an excessive Quantity of Wood; and when these have been already advanced by the Sap, Pruning weakens them to a proper Degree, and disposes them to yield Fruit. Of this Nature likewise are Apricot and Peach-Trees, and we may delay their Pruning till the Season of their Blossoms, because a severe Winter is injurious to several of their Buds; and when we forbear to Prune them till they are in Flower, we may be certain of preserving no Blossoms, but such as have not had their Pistils impaired by the Frost.

The Season for Pruning.

We may safely begin to prune all other Species of Fruit-Trees in general, and even the Vine, immediately upon the Fall of the Leaf; we may likewise continue this Operation, at our Leisure, during the Winter-Season; and the Whole will be render'd more prosperous, by not being performed in a precipitate Manner; but if this long and important Work should interfere, at the Beginning of the Spring, with a Number of other Labours, it will be but ill performed itself, and will likewise cause the others to be defective.

Chevalier. Our old Gardener, who believes himself very expert in his Profession, has told me, several Times, that the young Wood is too much endanger'd by being cut, and exposed to the Frost, and that it never ought to be pruned till Spring.

Count. This is the usual Language of a prejudiced Opinion; but we can oppose to it the Experience of those * Persons that are most distinguished by their Proficiency in this Art. They assure us, that Pruning their Trees, and even the Vine, before Winter, and during the Continuance of that Season, has never been attended with the least Inconvenience; but, on the contrary, was productive of the best Fertility. If any Detriment is to be apprehended from Pruning in Winter, it has no Relation to the Tree, but only to the Gardener, who perhaps may suffer from the Severity of the Cold. But as the Wood is not easily cut at that Time, and commonly proves very untractable under the Pruning-Knife, it furnishes the Gardener with a Pretext for consulting his own Ease, and waiting for a more favourable Season.

Chevalier. I intend to furnish myself with a Set of Grafting and Pruning-Knives as soon as possible.

Prior. Your Resolution is very proper, Sir. The Arts have this in common with Virtue, that the Knowledge of them is sufficient to render us enamour'd of their Excellence; but this Knowledge is never to be attained without the practic Part.

* M. de la Quintinie & le Normand.

Count.

Count. I would likewise advise you to provide yourself with a little Hand-Saw, that will clasp like a Knife upon its Haft. With this you are to cut from the Quick all the Stubs or Ends of dead Wood, and may saw away the strong and ill-placed Branches, on which the Pruning-Knife would make but little Impression. When you employ this latter, you must be always careful to clench your Left Hand strongly upon the Branch you would cut off, and below the Place where you make the Incision; otherwise you will expose it to the Danger of being wounded by the Pruning-Knife. But if such an Accident should happen, a Vine-Leaf will stop the Flow of Blood; and the softest Leaves are the most serviceable on that Occasion.

Prior. The Chevalier will hardly charge himself with the Management of every Operation in Gardening; and it will be sufficient for him to preside over those who perform them. A careful Observation of the particular Manner of Pruning Dwarf-Trees, Espaliers, and other Fruit-Trees, in celebrated Gardens; a frequent Conversation with the Persons employed in those Works, and a proper Comparison of their Methods and Principles of Art, will enable him to form a due Judgment of all that is transacted upon his own Land, without being a Gardener himself. You will, by these Means, Sir, become an Inspector of your own Gardens, and will acquire those just Ideas, as will make it necessary for all your Workmen to be desirous of your Approbation, and apprehensive of your Dissatisfaction. If you once teach them to respect you for your Judgment, you will be always well served.

Chevalier. I own that to be true, Sir; but one must first be a Soldier in order to make a good Officer.

Count. The Chevalier is determined to furnish himself with a Pruning-Knife, and he ought to be capable of using it in a proper Manner. But let him rather be the Superintendant of his Gardens, than engage in every Operation necessary to their Culture. I would, however, advise him to reserve for himself the Pruning of the two most distinguished Species; I mean, the Orange and

Fig-Trees; and we may now acquaint him, in few Words, with the right Method of managing them.

The Plantation of ORANGE-TREES.

Chevalier. Is your Lordship for a Walk under the Orange-Trees that border the *English* Parterre?

Count. Very willingly, Sir. Of what Age do you judge the Orange-Trees in those large Boxes to be?

Chevalier. I will guess thirty Years at a venture.

Count. There is not one in all these The Duration of two Rows, but what is above a hundred Orange-Trees. Years old. But I know some whose History will engage your Attention much more than those which I have inherited. An Orange-Tree seems to be still in its youthful Vigour, and is covered with Flowers after it has been in the Ground for two or three Centuries. And this Truth was demonstrated by that magnificent Orange-Tree at *Versailles*, which is called the *Great Bourbon*. It was seized, with the Estate of the Constable of *Bombon*, in the Year 1523, and was then the finest Tree in *France*, and judged to be sixty or seventy Years old, which, added to two hundred and ten, amount to almost three hundred Years. There are several of these Trees at *Fontain-bleau*, that were very fine even in the Time of *Francis I.*

Prior. This long Duration is a very uncommon Merit of an Orange-Tree. common Merit at present: But nothing can be more satisfactory than the Cultivation of a Plant which never discontinues the Delight it affords us by its immortal Verdure, if I may be allowed that Expression; and which bears, at the same Time, a fragrant Bloom of Flowers, and a Diversity of Fruits in their Infant-Growth and their full Maturity. It unites the amiable Appearances of several Seasons, and the Donations of various Years.

Chevalier. I should think a Growth of Orange-Trees not easily attainable.

Count. It is far from being so difficult as you imagine. We yearly receive from the *Genoese*, and Natives of *Provence*, young Orange and Citron-Trees ready grafted; and

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and these will suffice for the first Stock of your Orange-Plantation, and will likewise amuse you without much Expence. You may augment the Stock in a few Years, if you are so disposed, by planting in the Month of *March*, and in a proper Bed, the Seeds of wild and bitter Oranges, which, by the Aid of a Glass-Sash, and due Degrees of Heat, will rise near two Feet in Height at the End of the first Year; and they may be transplanted at the Expiration of the second into Pots, in order to be grafted. When your young Plants are once placed in Pots, you may remove them into the Sunshine or Shade as you find it necessary; and by these means their Growth will be soon advanced.

Prior. You will likewise be fonder of such Orange-Trees as these, than of any others, because you may properly consider them as Contemporaries of your own Rearing.

Count. As this fine Tree is not so natural to our Provinces, as it is to the Southern Parts of *France*, we must quicken the Tardiness of our Soil with a Composition that may cause it to correspond as much as possible with the Temperament of warmer Climates. It delights much in a Soil mixt with Sheeps-Dung that has rested two Years; old Compost, or the Soil of a Sewer, must compose a third part; and another third must be fat Land, taken either from a Marsh or a Hemp-Close.

The Proper Soil
for Orange-
Trees.

When the proper Season comes for lodging your young Stems in Boxes, these latter should be always proportioned to the Heads of the Plants. The Stems, when they are even become vigorous, will accommodate themselves to a Box of about fifteen Inches Diameter; but they must be placed more at large in others, when the Tree ceases to augment its Foliage, and informs you, by its languid Air, that its Soil and Sustenance are insufficient. At the Close of seven or eight Years they may be transplanted, with all their Earth, into their last Boxes, whose Diameter may be about twenty four Inches.

All these Boxes ought to be made of entire Heart of Oak. The small ones may be composed of little oaken Planks,

Planks, something more than an Inch thick, and they can't be too solid in their Conjunction. Your Boxes will soon decay, if you neglect to case them over with a double lay of green Paint liquified with Oil. Which last is likewise as necessary on the Inside, to preserve the Wood from being rotted by frequent Waterings, as it is on the Outside, to secure it from the Rain and Sun.

Chevalier. I observe, on each side of the large Boxes, a Door with double Hinges, and two Iron Bars. Will your Lordship be so good as to inform me of the Use to which those Doors are appropriated?

Count. They are made to admit the proper Renovations of Soil, and to enable the Gardener to clear the Box of the liquid Sediment that is collected and thickened at the Bottom; and likewise to pare off the extreme parts of the Mould, that it may afterwards be taken out with ease, when it becomes necessary to transfer it into a new Box.

In order to place some Shrubs, and more especially Orange-Trees, in Boxes, after a proper manner, the first Proceeding is to cover the Bottom of the Boxs with large Pieces of Brick and Pottsherds, which afford the Water an easy Flow through the Cavities that are opened at the Bottom. Were it not for this Precaution, the Humidity collected by the Sediment would rot the Box, and destroy the Tree by an immoderate Chillness. When this Provision has been made for the Security of the tender Plant, the Bottom and Sides of the Box must be lined with good Soil, prepared in the manner I have already mentioned: In this Soil the Tree should be inserted in an upright Position, and the Ball of Earth at its Roots must be lessen'd, not with any Intention to strengthen the Tree, but rather to prevent its requiring a large Quantity of Earth, and to confine it by a moderate Vigour, to a just Proportion with the Box. A new Mass of Earth must then be heap'd up on every side, and pressed in a due Compactness, in order to secure the Stem from violent Winds, and cause the Earth to settle round the Roots with as much Exactness as possible.

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When the Tree is to be placed in the Box, Care should be taken to raise the upper part of the Clod of Earth at its Roots higher than the Rim of the Box, because the Weight of the Tree and the Action of the Roots will afterward lower the Clod by degrees to a Level with the Edge of the Box. If this Precaution be neglected, the Tree in process of Time will sink too low.

Chevalier. Will not the upper Part of the Clod be exposed to the Air, in the Position your Lordship recommends?

Count. It ought to be covered over with Earth, and the whole should be sustain'd by smooth Staves disposed round the Edge of the Box.

The Head of an Orange-Tree is sometime shaped like a fine Bushy-Dwarf, The Form of an Orange-Tree. without any Vacancy within. Some Persons chuse to dispose it into a perfect Globe; others teach it to assume the Form of an Hemisphere, by rounding the Top and Sides, and pruning the lower part horizontally.

Chevalier. This Hemisphere, with its Stem, resembles the Figure of a Mushroom.

Count. The principal Beauty of an Orange-Tree consists in the Regularity of its Head; and as this Beauty is more durable than the Flowers, the Pruning-Knife is chiefly employed to procure it, unless the Flowers are intended to be multiplied.

Chevalier. Are these Plants pruned in a different Manner from other Fruit-Trees?

Count. Yes, Sir, in several Particulars. When Fruit-Trees are pruned, Care is taken to preserve the small Branches in a thriving State, in order to promote their Fertility; but they are retrenched in an Orange-Tree, that a Vacancy may be open'd within. The same Method is taken with the Branches that shoot downward in a perpendicular Direction; and likewise with those that are divested of their Leaves, which only happens when the Tree is weak or distemper'd: But we carefully preserve all the vigorous Branches,

The Manner of pruning an Orange-Tree.

Branches, whose advantageous Situation contributes to the Regularity of the Head. Great Favour is likewise shewn to a Branch of false Wood, as well as to one that has been generated contrary to the common Order, when any Advantage is to be expected either from its Vigour or Situation.

If the Tree should happen to be disfigured by Showers of Hail, boisterous Winds, an impairing Distemper, or any other Accident, it is customary to examine what Parts of it are most entire toward the lower part of the Head, and the Branches are pruned off to that Place; or, in other Words, they are shorten'd to the very Part that exhibits the preparation for a new Foliage, equal almost to the Former in every Particular, and whose agreeable form, by advancing to its full Perfection, will afford its Owner a Restitution for the Loss he sustained.

This amiable Tree is obnoxious to the Malignity of Distempers, the Ravages of Vermin, and the injurious Severity of Cold. If it assumes a yellow Complexion, it ought to be removed into the Shade, and should only be expos'd to the Sun for two or three Hours, for fear of exhausting its nutrimental Juices: Or perhaps it will be proper to strike directly at the Origin of the Evil, which may probably proceed from the Roots; and then it will be necessary to supply them with new Earth, and even to cut off all those that seem useless and decayed.

Chevalier. Can one have a Sight of the Creature that is so injurious to this Tree?

Count. They are seen but too easily, and you may observe several on this Leaf.

Chevalier. I don't discover any Animal there, and can only see a Cluster of blackish Spots, some larger than others.

Count. Those Spots are the Vermin I mentioned. The Creature is at first a little imperceptible Insect, that fastens itself either to a Leaf, or the Stalk, and then sucks out the Humidity that proves its Nourishment, without making any Puncture in the Leaf. The Black of this minute Insect is converted in-

The Vermin that injure the Orange-Trees.

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to a Crust, or immoveable Covering, which is gradually thicken'd and enlarged, and under which the Creature lives, and seems to be a Part of it. This Animal is viviparous, and becomes the Parent of a young Progeny like itself. Each Insect is thought to be Male and Female, since they all seem to have young ones.

Prior. Under the Spot or Shell of one of these Creatures, that was not the Twelfth Part of an Inch in Length and Breadth, I observed, a few Days ago, by the Aid of a Microscope, a prodigious Number of little Animals, that separated from each other at the Opening into their Habitation, and then dispersed themselves like Sheep in a verdant Meadow. I likewise took Notice of a fable Speck under the Covering which enclosed them, together with the Remains of several scaly Shivers, which inclined me to believe they were Part of the Carcase of the Dam, who had exhausted her own Substance in the Generation and Nourishment of her Off-spring.

Count. In order to guard against the Damage an Orange-Tree may sustain from the multiplied Race of these Insects, by their draining it of its Juices, and preventing a due Perspiration through its Leaves; it will be proper to rub the invaded Branches, and their Foliage, with a Brush steeped in Vinegar, or a Piece of Linnen dipped in Salt-Water. This Method will sometimes exterminate the whole Breed; but we have frequently the Mortification to find it ineffectual.

The third and greatest Hazard to which these Trees are exposed is the Severity of the Cold, against which the Green-House is the best Preservative: It is therefore customary to lodge all the Boxes in it, from the Middle of *October* till the Return of a more favourable Season. Those who have an Inclination to gather Flowers, in the Winter Months, should not forget to pinch off the Extremities of some of the small Branches in *September*. This Method will prevent them from unfolding their other Buds till the Seasons be more advanced, as has been already observed, when Rose-Trees were the Subject of our Conversation.

Chevalier.

Chevalier. Is the Culture of the Fig-Tree attended with any Difficulty? I must confess, it is the Plant I should be most desirous of rearing, because its Fruit is perfectly agreeable to my Taste.

The Plantation of FIG-TREES.

Prior. The Fig-Tree is easily cultivated; The Merit of a it advances with a speedy Growth; its Fig-Tree. Fruits may be ranked among the most perfect Kinds, and it produces them twice in each Year. These four Advantages are not comprehended in any other Plant.

It must be granted, that all Sorts of Figs are not successful in our Climate; but the White Figs, as well the round as the long, and which are the only Species that are now cultivated at *Paris*, are so extremely delicate, and advance to such Perfection, that neither *Languedoc* nor *Provence* can boast of any that exceed them; and this has been frequently acknowledged to me by several curious Persons of those Provinces who delight in Gardening, and are not prepossessed with any Partiality to their own Country. They likewise have assured me, that some of their Countrymen were so struck with Admiration to find the round Fig so ripe in Autumn at *Versailles*, and so delicious in each of its Seasons, that they distinguished it in *Provence* and *Languedoc* by the Name of the *Versailles Fig*, and thought it preferable to all others.

Count. I have heard some Travellers, who even idolize the Productions of *Italy*, acknowledge, that they never tasted any Fruit that was enriched with a more exquisite Juice than our Figs of the second Season.

Chevalier. I am determined then to have a Plantation of these Trees.

Count. Nothing can be more practicable; for the *Genoeze* Merchants will soon furnish you, upon very reasonable Terms, with all the Materials necessary to form a fine Growth of Fig-Trees. But you may raise your Plantation, at a less Expence, from the rooted Fibres, Suckers, Slips, or Layers of the most approved Trees, and

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and which will seldom fail of being successful and fertile in a short Time.

The fine Slips are taken from the Southern Side of a Tree well rooted in the Earth; and they may be replanted in the Spring or Autumn.

Layers are Branches bent into the Earth without being severed from the Tree, and they take Root in that Part of the Ground into which they are sunk. They are afterwards disjoined from the Tree, by cutting them from the Stem, in the same Manner as is practised on the Vine.

There is another Method of disposing Layers, which is easily performed. You cause the Branch of a Plant to pass through a Tin-Funnel, or a Wicker-Basket, filled with Earth, into which the Branch will soon shoot several Fibres. It must then be cut asunder below the Basket, which should then be placed in the Earth. This Expedient secures the Roots from all injurious Treatment, and never retards the Plant, which will not need any Graft, since it is already a Species that produces the best Kind of Fruit.

Should you be desirous of raising Fig-Trees that will bear Fruit the ensuing Year, lay the finest Branches of an old Tree in the Earth; and, I can assure you, there is no great Mystery in the Operation. You cause a Branch, of a moderate Size, to pass through a Box, after you have peeled off a Round of Bark about a Finger's Breadth, and between two Knots. The Part so strip'd must be disposed the Breadth of four or five Fingers above the Bottom of the Box into which it is inserted; and when this Branch has been covered over with Earth, it will shoot out several Roots from the wounded Part; and it should afterwards be severed from its Stem, by cutting it off below the Box.

When your young Fig-Trees, that have been propagated from Slips and Layers, begin to unfold a fine Growth of Leaves, they should be removed from the Pot, or Basket, into Boxes; and the Ball of Earth that adheres to their Roots ought to be raised a little higher than the Edge of the Box. When your Fig-Trees no longer produce any large Wood, you must either surround

round them with a new Supply of Earth, or place them in larger Boxes; and if, at the End of twenty Years, they should be too much confined in the larger Boxes, they will still continue prosperous, if you transplant them into the Earth.

Prior. Fig-Trees are sometimes trained up to the Espalier; but they will then have too much Liberty, and shoot out more Wood than is consistent with their proper Regulation. They may indeed be easily supported by Poles, about the Distance of a Foot from the Wall; but this little Forest of Plants, raised before a Wall that remains uncovered below, is far from being ornamental to a Garden; and the Winter will frequently be very injurious to the Trees, whatever Precautions may be taken to the contrary.

Count. We generally content ourselves with Fig-Trees in Boxes, and likewise with those that are formed into Bushy-Dwarfs. The Tree that grows in the natural Earth is secured from the Rigours of Winter by a Covering of Straw: Those in Boxes are preserved in the Green-House; and they are, at present, in the greatest Esteem, because they are capable of being cultivated with more Certainty and Ease than any other Class; and the Fruit, beside the Merit of a full Growth, has also the Advantage of completing its Maturity the soonest of any.

Chevalier. 'Tis Pity this Plant is not so beautiful to the Eye as the Orange-Tree.

Count. Its Shape results from a Set of particular Principles, which may be all comprehended in a few Words. In the first Place, it is impossible to form the Head of this Tree into any exact Regularity.

Prior. The Damage is not very great; for an Air of Ease and Unconstraint has always an agreeable Appearance, even in those Objects that are capable of a curious Adjustment.

Count. A Fig-Tree in particular should have a Mien of Freedom. Its Leaves are too large and uncompliant to form an exact Round; it will be sufficient, therefore, if it has some Similitude to that Figure; and we are satisfied, if it does not shoot into a ridiculous Expansion

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on one Side, while its Growth is entirely contracted on the other.

The Eyes, in the Branches of small Wood, are flat, or but little swelled, and are very remote from each other. The good Branches have large Eyes, whose mutual Distance is very inconsiderable; and these should be always preserved. Hitherto the Process is much the same as in other Fruit-Trees; but as Figs grow upon the strongest Branches, and never upon those that are small, the weak Branches must be cut off, and the strong ones preserved, contrary to the Methods practised on other Trees. The Figs shoot immediately from the large Branches, without being preceded by any Flowers; because the Fruit itself encloses its Chives, together with its Powder and Seeds, under one common Foldage.

Prior. Every Circumstance in this Tree is very singular, and varied from the general Order observable in other Plants. That Being, who has subjected them to one uniform Law, can dispense with its Operations whenever he pleases, and his Power is equally productive when he even recedes from the Laws of Fertility. The Stems of those Leaves that shoot forth, after *Midsummer*, will produce Fig-Buds, or the first Figs of the ensuing Year; and the Stalk of each Leaf, that unfolds itself in the Spring, will bear a Fig that will ripen in Autumn, if the Weather be hot, and the Exposition favourable; otherwise it will wither away, and not attain to any Maturity, even in the following Year; though it may possibly preserve some Appearance of Vigour in the Winter-Season.

Count. Can you judge, in the manner by which the Fig-Trees grow, how the Tree ought to be pruned?

Chevalier. I should think it proper to let the large Branches be very long, in order to acquire a greater Quantity of Fruit.

Count. That, indeed, would be the Effect; but it will be much better to invigorate the Tree, nourish the Wood, and raise a Growth of Figs that will be more valuable for their Beauty than their Number; for which Reason, the Fig-Tree is kept something low, especially those in Boxes, which cannot derive so much Aliment from

from the Earth, as those that expand their Roots in full Liberty.

At the Return of Spring it will be proper to cut off all the Shoots that rise from the Stem, and they may be employed as Slips. All the dead Wood must likewise be lopped off, and the large Branches that are newly shot forth should be shorten'd, and not permitted to exceed two Feet in Length. In the Month of *April* the Ends of all the old and new Branches ought to be broken off, that these may produce lateral Shoots which will supply the Fruit below with more Sap; and at the same Time a richer Growth is secured for the succeeding Year, when all the new Shoots, that have yielded Leaves, will likewise be productive of Fruit.

The Fig-Tree is a Plant that requires large Refreshments of Water; and it is dangerous to confide this Part of its Culture to an indolent Gardener, who will think himself discharged from that Care by the least Sprinkle of Rain; though it is certain, that a very copious Shower only moistens this Plant to a very moderate Degree; because the large Expanse of its Leaves prevents the Humidity from arriving at its Stem. It ought therefore to be plentifully watered once a Week, at least, during the Spring; and this Operation may be facilitated by Means of a Pump, that raises Water to the Top of a Building, that there may be a sufficient Quantity of it ready for the Extinction of Fire. Or a leathern Pipe may be fixed to the Cock of a Fountain, or the Ajutage of a *Jet d'Eau*; and the Water, being impelled forward by the Current behind it, will ascend without any Obstruction. By which Means, a single Servant may soon distribute a sufficient Quantity of this Fluid to a long Row of Boxes, and even to all the Beds of Herbage in a large Compartment.

Chevalier. Your Lordship has undoubtedly caused your Fig-Trees to be disposed around that Bason, that they may be watered with as little Difficulty as possible; but I should be glad to know why they are fasten'd to the Foot of the *Jet d'Eau* with long Bands of Woollen Lint.

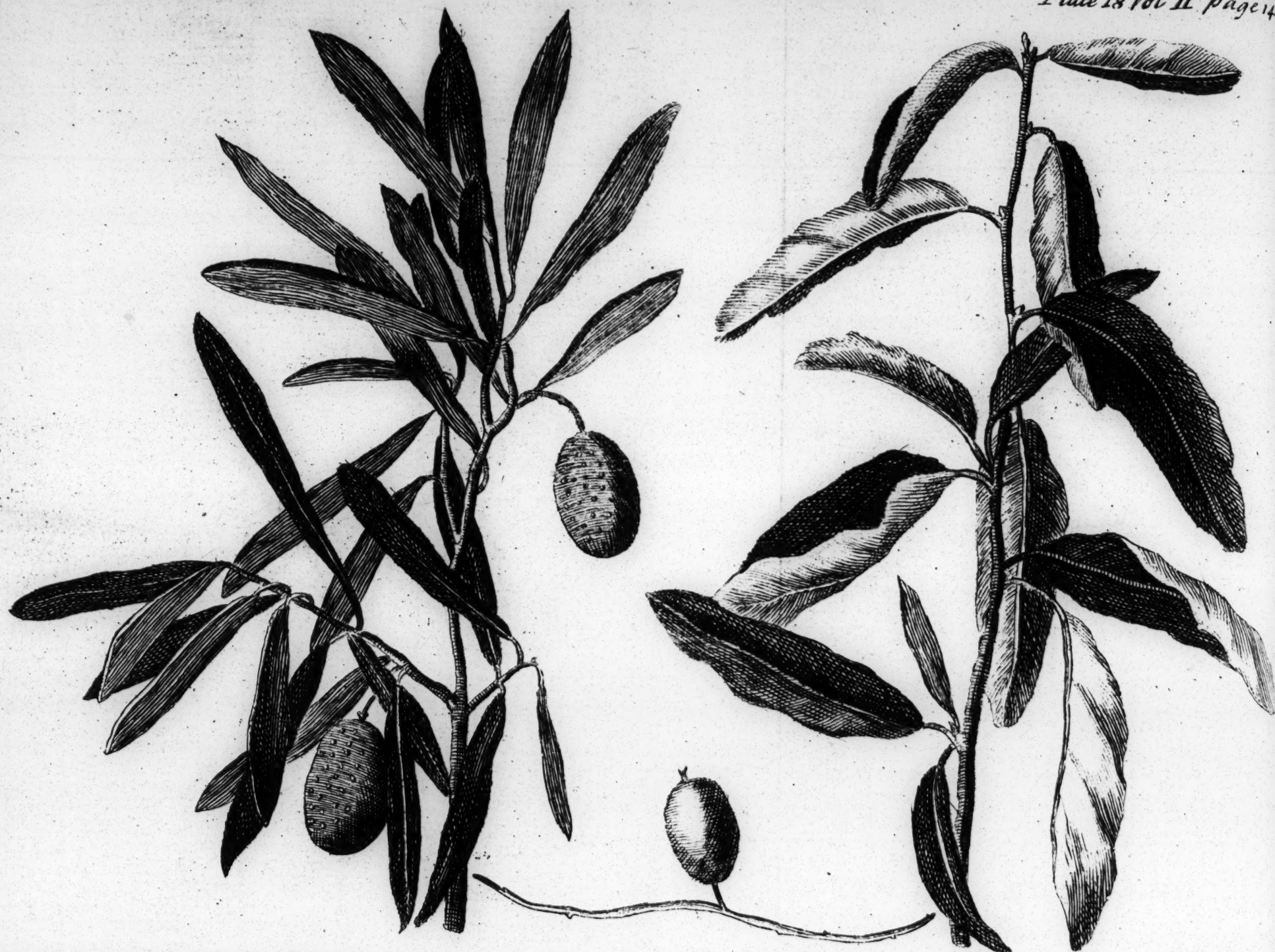
Count. The Affair is very different from what you imagine. In the Middle of that *Hexagon* Bason, which is even

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even with the Surface of the Earth, you see a Pedestal four Feet high, supporting a round Bason, that discharges a Sheet of Water over its Rim. In that upper Bason I cause as many long Pieces of Lint to be steeped, as there are Boxes of Fig-Trees round the grand Bason. The hither End of the Cloth being lower than that which is immersed in the Water, the Lint is easily filled by the Aid of the Air, which gravitates on the Surface of the Water, and causes it to glide along the Fibres of the Wool. It then distills in Drops on the Earth, and diffuses a sufficient Freshness thro' the whole Box, and which may be redoubled upon every proper Occasion.

Chevalier. This is saving abundance of Labour, at a small Expence: But are there no other Fruits that your Lordship would recommend to my Care?

The Plantation of OLIVE-TREES.

Prior. The Olive-Tree would deserve our Attention as much as all the other Plants we have mention'd, and perhaps more, could its Fruit be brought to a due Maturity in our Provinces.

Chevalier. In what Countries, Sir, is it most successful?

Prior. It thrives to perfection in the Southern Parts of France; but it enriches in a peculiar Manner the Cantons of Oneille, and Grasse, in Provence, with an Oil whose Sweetness excels the most perfect Growths of Italy and Portugal. Next to this, the Oils of Arramont, Aix, and Nice, are in the greatest Estimation. Those that are brought from Naples, the Morea, Candy, and the Isles of the Archipelago, are ranked in the third Class. The Olives likewise differ as much as the Oils: Those of Provence, which are easily distinguished by their Smallness and unequal-pointed Figure, have a delicacy of Flavour, which makes them universally preferred to all others.

The Leaves of the Olive-Tree have a near resemblance to those of the Willow, and it is a Plant that may be easily cultivated by those who have any Curiosity to raise it;

it; since it demands very little Labour or Attention*. It is customary to plant it in a Box of light Earth: It requires plenty of Water in the Summer Seasons, and should have a commodious Shelter from the Winter's Cold.

Chevalier. In what manner, Sir, is the Oil made?

Prior. Olives are useful in a double Function. When the Extraction of their Oil is intended, they are bruised under a Mill-Stone, and reduced to a PASTE: This must be work'd up with an Intermixture of warm Water, which disengages the Oil, and by causing it to swim uppermost, facilitates the manner of acquiring it. It may be kept for about a Year, after which it degenerates and grows useless. Nature, by advancing Wine to Perfection in proportion to the Increase of its Age, seems to invite us to act with Oeconomy in its Consumption, lest it should happen to be abused; but in limiting the Goodness of Oil to the Duration of a Year, she compels the Rich to impart it to their Inferiors, who will always use it with Moderation.

When Olives are reserved for eating, it will be necessary to correct their bitter Flavour: In order to which, they are first pass'd through a † Lixivium of Ashes and Lime, and then deposited in Vessels of Stone or Wood, with a small quantity of Water, Salt, Coriander, and Fennel, or some other *Aromatic Plant*.

This Fruit, whose Juice is transported in such a beneficial manner to all Parts, compensates the Provinces where it grows for their want of Butter, and other Accommodations afforded by Pasture-Lands, which are seldom seen in those Countries, because the Grass is withered by the sudden Evaporation of the light Soil, which lies too much exposed to a scorching Sun.

Chevalier. We have Tracts of Land, in several Parts of the Kingdom beside *Provence*, that are parched and render'd useless by the immoderate Heat that exhausts them: Is it impossible to cultivate Olives in such Soils as these?

Prior. It may perhaps be said that they will not suc-

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ceed there, because they have never been seen in those Parts. When our Ancestors, the *Gauls*, pass'd the *Alps* to enjoy the delicious Gifts of the Vine, and the Olive-Tree, in their *Italian* Settlements, they had no Conception that these Plants could ever prosper in *Gallic* Climes; and yet they have since been transplanted thither, with more Success than even attends them in *Italy* itself. It was likewise a prevailing Opinion, that the *Muscadine* Grape, the Orange and the Fig, could never accomplish their Maturity among us. It is not very long since this Error has been dissipated; and we were then convinced that the *China* Orange, the *Muscadine* Grape, and the Fig, were capable of acquiring as exquisite a Flavour, and as perfect a Ripeness, even in the *Northern* Part of *France*, as they ever assumed in *Champaign*. You may likewise judge, by another Instance, what Expectations we may entertain from our Experiments, and the Fertility of our Soil. Some Years ago, the King gave Monsieur *le Normand* two Suckers of a Pine-Apple, and recommended their Cultivation to his Care, though they were almost withered at that time, and had not any Roots: The Heart, however, was good, and they happened to take. But though the Fruit they produced could not be advanced to its proper Maturity, yet two Suckers, that were preserved from the Putrifaction and Danger of the others, produced, in the Year 1733, two Pine-Apples, whose Beauty attracted the Attention of the Curious. The Assiduity used in their Culture, in Conjunction with a favourable Autumn, raised them to a Perfect Maturity. The King himself tasted one of them the 28 of *December*, and found it excellent; and all those Persons, to whom his Majesty thought fit to send part of these Fruits, in order to consult different Palates, unanimously agreed that the Pine-Apples were completely ripe, and had a delicate melting Pulp, agreeably quicken'd by a fine Acid, and were as richly perfum'd as a Strawberry.

My Inference from this Fact is, that if the Pine-Apple, which seem'd to be limited to the *Torrid* Zone, can be brought to Maturity in the *Northern* Part of *France*; the Olive-Tree, which prospers in the Provinces beyond

yond the *Loire*, may certainly succeed on this side of that River. Our Climate is favourable to most Productions, and we need only make proper Trials of its Efficacy, and aid it in its Operations.

Count. I really believe the Olive-Tree would thrive in our Gardens, as well as the White Mulberry Tree, which now performs Wonders in several Places that were formerly thought too cold for this Plant, as well as for the Silk-Worm.

Prior. We daily pay less Regard to a Maxim that has been extended too far, and which asserts that Fruits are so peculiarly adapted to certain Countries, that they can never succeed in any other Regions: And since we have, at last, divested ourselves of this unreasonable Prejudice, by which we had long been impoverished; we rear those Fruits, with whose Names we were almost unacquainted, some Years ago. The Observations that have been made on the valuable Productions of different Provinces, and on such as each Soil either furnishes of itself, or may be rendered capable of producing, by its Intermixture with other Earths; a due Examination of what Fruits particular Trees afford without pruning; and what kinds other Trees may be taught to bear, by this Operation; a strict Attention to the natural Produce of each Season, and to those Additions that may be made, by the Assistance of Sashes, Mats, Conservatories and hot Beds: In fine, an exact Conformity to the whole Process of Nature, aided by all sorts of Experiments and industrious Applications, has enabled us, within the Compass of a few Years, to collect into one Country, all the Advantages which, till then, were diffused through several Regions; we can now communicate to various Seasons those Productions that were formerly appropriated to one; and are capable of deriving Profit from a Soil that once seemed to be the Seat of Sterility; in a Word, we have it in our Power to accommodate Society with a Circulation of Fruits and Herbs that are as durable as the Year itself.

Count. This Circulation is the principal Object of Gardening; but when we are not to fill our Ground with every particular Species, as is practised by some Persons.

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What Advantages can redound from a laborious Culture of such Trees as produce but indifferent Fruits? Let us rather devote our Time and Soil, to those Productions that are most perfect. I intend, my dear *Chevalier*, to inform you in our next Walk how a Garden may be employed in the most beneficial Manner; by presenting you with a Catalogue of those Species which ought to be admitted, in exclusion to all others; and I shall then acquaint you with their proper Management, through the whole Course of the Year.

Chevalier. If your Lordship is resolved to confine me to such a strict Oeconomy; I doubt I must bid adieu to Philosophy.

Prior. Not at all, Sir, I assure you. True Philosophy always begins with a reasonable Oeconomy; and it is this alone which enables us to pass our Days in Tranquillity, as well as to render good Offices to others, and to conduct all our Undertakings with Decency. What Prerogative has any Person to philosophize on what passes in the Heavens, and to range the whole System of the World, if he is unable to regulate his own Habitation?

FRUITS.

DIALOGUE IX.

*The COUNT. The COUNTESS. The CHE-
VALIER.*

Chevalier. **N**EW Figs in the Month of May;
with Grapes of the last Year's
Growth! Surely this is a very un-
common Desert.

Countess. You see, Sir, we can unite the old Fruits with
the new.

Chevalier. I suppose the Figs may be owing to the
Heat of the Stove and the Dexterity of the Gardener;
but is the Preservation of the autumnal Fruits likewise the
Effect of his Care? I am apt to think they have been
managed by some other Hand.

Countess. This is a Province I have reserved to myself;
and have sometimes been so successful as to preserve the
St. Germain Pear to the Month of February; and the Vir-
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Count. New Expedients are daily invented for causing agreeable Surprises, by presenting us with such Fruits as are not to be expected, according to the Course of the Season; and the Imagination can never be too fertile in furnishing such Expedients as these: But the Point from whence we ought to set out, in order to secure a Supply of fine Fruit through the whole Course of the Year, is a right Knowledge of the Season in which each particular Fruit attains its Maturity, either on the Tree or in the Conservatory; and a regular Choice of those Species that are proper to be planted in the Kitchen-Garden.

Countess. Those that are most excellent ought to be procured for all Seasons, and one should never take up with such as are indifferent, except when the others are not to be acquired.

Chevalier. The Number of excellent Fruits is not extremely great; and I can easily set down their Names and Successions in my Book of Memorandums.

Count. I promised to furnish you with the Particulars.

Countess. Let us begin with the Fruits of the present Month.

Chevalier. I always thought that Flowers were the only Productions of May.

Countess. We intend to entertain you with a Collation of Strawberries To-morrow.

Chevalier. Does your Ladyship mean such Early May
Fruits. as will be red and tender?

Countess. I do, Sir: And if you are disposed to be incredulous, I can even cause them to ripen in the Month of April. I assure you, we had some brought to Table two Days before we were favoured with your Company.

Chevalier. I suppose the Stove is instrumental in furnishing these Novelties.

Count. Not at all; the young Plants were brought from the Woods in Autumn, and were then transplanted into a Bed. Care was taken to give them a new Supply of Heat in February, disposing a Lay of fresh Horse-Dung round the Bed; and the rest has been completed by the Sun-Beams and Glass-Bells properly managed.

Countess. I propose, within fifteen Days at most, to present you with a Desert of early May Cherries, attended

by Strawberries in their full Perfection, and produced by the natural Soil. These are Part of my Revenues, and I yearly receive them myself. As to the Manner of their Production, the Count will acquaint you with the Particulars.

Count. In order to raise a Growth of Early-Cherries, it will only be necessary to train your Trees to the Espalier in the best Exposure; and if you are desirous of forward Strawberries in an open Soil, all the Precaution you need observe is to take the Plants out of their native Earth, and place them at the Foot of a Wall sufficiently exposed to the Sun. The Flowers that bloom last in Spring are to be retrenched; but those which make the first Appearance should be strengthen'd and aided as much as possible. These are soon enlarged, and the Fruits they produce are render'd much finer by this Management.

When the Fruit-Season of these Plants is over they should be cut even with the Surface of the Earth, which will give an additional Vigour to the Roots; whereas, if the Stems are permitted to continue in their full Growth, the Roots will be exhausted in nourishing a Profusion of Shoots, which will bend spontaneously into the Earth, and weaken each other by their immoderate Number.

A Bed of Strawberry-Plants will continue fertile for three Years; but a third Part of them should be annually destroyed, in order to replenish that Part of the Plot with young Plants from the Woods; and there will always be a sufficient Supply of good Fruit, when this Method is pursued.

Countess. Strawberries and early Cherries will be accompanied by Raspberries and Gooseberries

Raspberries.

Gooseberries.

in *June*; and common Cherries will be gathered about the Middle of that Month.

These will soon be succeeded by the *Montmorenci* Cherry, and the White and Black Hearts, which are in the greatest Esteem.

July is the Month for Red Fruits, and our Deserts will then be graced with all the Kinds I have already mentioned; together with the *English* Cherry, which is so generally valued for its Largeness and sweet Flavour: The Black Cherry will

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will likewise make its Appearance at the same Time; and the Fig-Tree will then afford us some Productions to grace the first Courses at our Entertainments. Toward the Middle of the same Month we shall gather early Peaches; the little Peach of *Troyes*; *Catalonian* and *Perdrigon* Plums; the earliest Apricots, and several excellent Pears, such as the little Musk, the *Magdalen* and the early *Rouffelet*.

Count. The excellent Flavour of the Musk Pear is a Compensation for its extreme Smallness. This Fruit succeeds best on an old Tree, in Summer Pears, the open Air, and in a dry Soil. The *Rouffelet* is not very common as yet, but deserves to be render'd so, because it is as forward as the Musk Pear; and not only exceeds it in the Delicacy of its Juice, but is likewise seven or eight Times as large.

Countess. The latter End of *July* furnishes me, if I am not mistaken, with the pearly *Mirabelle*; which is a large Plum, whose Juice is exceeding sweet. When all these Fruits are properly intermixed, they may be formed into Pyramids, and other Imitations of Architecture: The Stories and Projections of which may be ornamented with shining Colours; and they are likewise capable of being clouded in a very agreeable Manner.

The Month of *August*, instead of bestowing its Fruits, seems to lavish them with the utmost Prodigality. We are then regaled with large Figs, Cherries of the last Growth, Apricots, and a vast Variety of excellent Pears.

Count. The first of these are the *Musk Robin*, which is a Pear of a breaking Pulp, and a rich musky Flavour; the *Cuisse-Madame*, whose admirable Juice renders it worthy to be screened from the Winds, since the least Blast shakes it from the Tree; the long-stalk'd *Blanquette*, much esteemed for its vinous Relish and its tender Flesh; the *Skinless Pear*, which is always too transient; it is likewise very melting, and full of a perfumed Juice.

Countess. I am very fond of the *Cassiolette* and the *Salviati*, which are produced at the same Time: These Pears are very fit to be preserved with Sugar, because they

have a rich musky Flavour, and are not intermixed with any gross Substance.

Count. The last Pears of this Month are the Summer-*Bon-Chrétien*, and the Royal Musk-Pear; they have a breaking Pulp, but are full of a perfumed Juice.

Countess. This is likewise the Month of fine Plums; but I should soon bewilder myself, should I attempt to reckon up the several Kinds.

Count. The first is the *Monsieur*-Plum, which is the same as the Damask-Violet of *Tours*. The next are the Damask-Violet and the Damask-Red. The three best Damasks are the White, the Green, and the Black, which easily discharge the Stones like those already mentioned, and exceed them in Flavour.

The little white and red *Mirabelle*, the Apricot Plum, the *Italian*, the violet and white *Perdrigons*, together with the Diaper-Plum, are in great Estimation for their excellent Pulp. The Saint *Catharine* is no way inferior to any of the preceding Plums, especially when it has been suffered to acquire the Wrinkles and Maturity of a proper Age on the Espalier; and to which it can never attain in the open Air, where it is too much exposed to injurious Shocks from the Wind.

Countess. The Queen *Claudia* is, in my Opinion, the finest of any that has yet been mentioned; and it would be a Plum of the utmost Perfection, were its Colour as beautiful as its Juice is rich.

Count. Its ever green Skin is sometimes tinged with a Bloom of Red; and this Operation is performed by clearing away the Leaves which shroud it from the Beams of the Sun: But this Method, which succeeds very well with Peaches, Apricots, and Pears, should be practised with Caution; and, I suppose, the Chevalier knows for what Reason.

Chevalier. 'Tis because the Fruit would be injured, by being divested of a large Number of its Leaves, which may probably contribute to its Perfection, and they nourish it without doubt.

Count. It has been demonstrated, by Experiments, that the Perfection of the Juices of Fruits depends on the Preservation of their Leaves; since the Sap, according to the

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the Opinion which now prevails, never flows into the Fruit, till it has been circulated through the Foliage. It is certain, that when a Tree has been divested of its Leaves, the Fruit, instead of attaining its due Maturity, always degenerates and withers away.

The Month of *August* presents us, at its first Entrance, with the *Magdalen-Peach*, one Species of which is call'd the white, and another the red, and they are both very excellent: They are easily distinguished by their Leaves, which are more indented than those of other Peach-Trees. We likewise gather at the End of this Month the *Mignonne*, which is of two Kinds, the small and the large: The latter is the most amiable and perfect of all Peaches, and ought to be planted more than all the other Species.

The *Rossane*, the *Early-Chevreuse*, and the *Belle-Garde* presents us with a delusive Form, and want the Merit of the Violet-Peach, which is the most vinous Species, and appears about the Close of *August* with the *Brugnon*, to which it has some Resemblance.

Chevalier. What Difference is there between a Peach, a *Brugnon*, and a Pavy?

Count. The *Brugnon* has a striped Skin; but the Peach and the Pavy have a Covering that imitates Velvet or a fine Down: The Pavy and the *Brugnon* resemble each other in their Inaptitude to quit the Stone, which the Peach always discharges and ripens to a greater Perfection.

Countess. Let us now proceed to the Month of *September*; one of whose finest Presents is the *Rouffelet* Pear, as well the small as the large one. The Rouffelet-Pear.

Count. I think I have observed that these two Species are in reality one and the same Fruit: They entirely correspond in their Flavour and Fineness; and the Difference in their Sizes manifestly results from the Qualities of the Stock on which they are grafted, or from the Soil wherein they are reared. It is undoubtedly one of the most exquisite Species of Pears. Nothing can equal the Softness of its melting Pulp, the Delicacy of its Juice, and the excellent perfume of its Flavour. It suc-

ceeds in every Soil, and especially in those that are light. That which is cultivated at *Rheims* is the most perfect of any; and those which are reared in Gardens, are much superior to the *Rouffelet*, which is propagated in the open Country.

Chevalier. A Tree, that extends its Roots under an immoveable Soils can never enjoy the Benefits of Cultivation and Rain, like other Plants. From whence then does it derive its Juices? For my Part, I should imagine it to be incapable of imbibing any.

Count. It undoubtedly extracts a constant Nutriment from the Earth, and especially a Vapour impregnated with volatile Salts, from those Parts of the Soil where the Cavities are deep and spacious. We may form a Judgment of this Fact from the Incrustations of Salt-Petre, which adhere to the Spiracles of Caves, and to the Walls of subterranean Vaults. The small Particles of Salt, which are so instrumental in exalting the Flavours of Fruits, are propelled by a Succession of other Exhalations. They rise and float in the Air, where the Tree expands a Profusion of Leaves adapted to their Reception. These Salts likewise settle on the Tops of Buildings, from whence they are swept by a Flow of Rain, and conducted to the Stems of Trees, where they sink through the Cracks in the Ground, and a thousand Canals which are opened by Worms for the Admission of Air and Freshness.

The *Rouffelet* is either accompanied or soon succeeded by three Sorts of Peaches, that contend with each other for the Prize of Beauty and Perfection. The first is the Admirable; the second the Royal Peach, diversified from the other by a little Tumour, which lengthens it in the extreme Part; the third is the Purple or late *Chevreuse*, which resembles the early *Chevreuse* in its Form, but has not such a woolly Substance. Its Red is of a deeper Glow, and from thence it derives its Name of Purple.

Countess. The Tardiness of its Appearance is not one of the least of its Qualities. It almost shines alone at the Close of *September*.

Count. If it has any Attendants, it derives considerable Advantages from its Comparison with those that ripen with

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with less Facility. Such, for Instance, are the *Magdalen Pavy* *; the *Nivette*; the White *Andilli*; the Admirable Yellow; the Tardy Violet †, and the Pavy of *Pompone* ‡. The Month of *September* likewise brings several valuable Plums to Maturity, especially the *September Damask*.

Countess. When there happens to be a great Scarcity of Peaches, their Place in the Desert is sometimes supplied by those Apples that are called the Red and White *Calville*; the latter of which has the more exalted Flavour, and is capable of being preserved till *Easter*.

The fine *September* Peaches discredit most of the Pears of that Season; we must however except the Winter-Thorn-Pear and the *Rouffelet*, which sustains no Dishonour by appearing at the Side of the Pavy-Royal, and the Admirable.

Count. The *St. Germain* Pear ||, and the *English Beuré*, with an Intermixture of Grapes, are introduced to fill up, in some Measure, the Void between the Peach and the *Beuré*.

Countess. The *Chevalier* may add to the Observations he has already collected, that, during the first Days of *September*, it is usual to colour Fruits by an Art that is easily practised. When we have an Inclination, for Instance, to heighten the faint Complexion of the *St. Germain* and the Royal Winter Pears, and especially a fine *Bon-Chrétien*, the Leaves that intercept the Rays of the Sun are cleared away, and the Fruit must be moisten'd, by drawing several Lines over it, from End to End, with a Pencil dipped in fresh Water. The Sun afterwards refines this Water, I know not how, and changes it to a very bright and lively Vermilion.

* So called, because its Leaves are indented like those of the *Magdalen* Peach.

† Or the Marble Peach.

‡ Or the monstrous Pavy.

|| It is also called *L'inconnue de Chenau*, or *de la Fare*, i. e. the unknown of *La Fare*; it being first discovered on the Banks of a River called by that Name, in the Parish of *St. Germain*.

Count. When the Season proves favourable, the Month of *October* compleats the Maturity of the second Growth of Figs, which are smaller indeed, but much finer than the first; and these, perhaps, with Melons, are the most perfect Productions of the Year.

As to Pears, which this Month affords in great Plenty, I would limit their Culture to five or six Species, that are melting and delicate. The first is the *Beuré*, which is distinguished, though perhaps improperly, into the Grey, the Red, the Green, and Golden Species. These Diversities evidently result either from the Qualities of the Stem, or the Temperament of the Soil. The other Sorts are, the Long-Green Pear*, the Long-Green *Swiss*†, the Autumn and *Swiss-Burgamots*, the Dean's, or St. Michael's Pear, and the *Besidery*; which last never prospers but in the open Air.

Countess. All these Fruits, and especially the Autumn-Burgamot, are very excellent; but they sustain some Disadvantage by succeeding the *Beuré*.

Count. At the End of *August* we gather ripe Grapes; such as the Royal *Muscadine*, whose Flavour is exquisite; the *Austrian* Grape, which is equally delicate, and whose Leaves are distinguishable by their Resemblance to those of Parsley; the White and Violet Grapes of *Corinth*, the Berries of which Species are compact and small, and have very little Stone. *September* likewise supplies us with the White, the Violet, and the Red *Frontiniacs*, which are excellent when they have advanced to a compleat Degree of Ripeness. But *October* is the Month in which these Grapes generally acquire their full Perfection, as well as the *Gennetin* and *Malmsey* Grape; together with the Long *Frontiniac*, which only succeeds in very hot Soils and favourable Years. In order to promote the Maturity of these Grapes, in those Situations where they have not a sufficient Warmth of

* It is likewise called *Mouille Bouche d'Autonne*, the Autumn Mouth-Water Pear.

† This is also known by the Name of *Mouille Bouche Panache*, the striped Mouth-Water.

Sun, the Berries, while they are as small as Pease, should be thinn'd with a Pair of Scissars, that those which are suffer'd to remain may be more effectually nourished. Thick Clusters are the worst, both for the Table and the Wine-Press.

Frontinac and all white Grapes may be divested of some of their Leaves, and refreshed with Water, in a hot Sunshine. This seasonable Supply of Moisture renders them soft, and tinges them with an Amber Colour very pleasing to the View.

Chevalier. There are some curious Persons, who deposit Grapes and other Fruits in the early part of their Season, and while they are yet tender, in Glass-Bottles, where they are properly matured by the Sun, and continue uninjured for a long time. But I am apt to think, Grapes may be preserved by Methods still more simple than this.

Countess. I am acquainted with two that are very successful. The one consists in cutting off long Branches that sustain several Clusters, and fixing them on Hoops, which should be hung up in some Place where all outward Air is excluded. The surest Expedient is to hang them in close Boxes, or dry Casks, that whenever we open one of these Stores to take out some of the Fruit, the rest may receive no Prejudice.

The other Method, which is still more certain, tho' indeed it creates more Trouble, is to leave the Grapes on the Espalier, and to keep them wrapt up in two little Bags, one of Paper, and the other of wax'd Cloth, during the whole Winter-Season. The Expence is inconsiderable, and need not be renewed for several Years. The Mouth of the waxed Bag must be drawn together something strait, that the Fruit may still derive some Nourishment from its Stem, and not lose much of its Juice by Evaporation. This Covering likewise secures it from the Ravages of Birds, and the injurious Effects of Rains and Hail, and common Frosts, but, if the Cold becomes violent, there should be an additional Shelter of Straw; by which means we may be certain of enjoying *Frontinac* and other Grapes till after *Easter*.

Count. All Stone-Fruits disappear in the Month of *November*; but the Conservatory, at that time, refunds its deposited Fruits which are gradually prepared to regale us at different Periods of Time.

Countess. They seem to maintain a kind of mutual Intelligence, and one would be apt to imagine they had enter'd into an Association, to render us their Services in their several Successions.

Count. The *Monsieur John* is a Pear of an excellent Flavour, though it be something stony. The Vine Pear has a melting Pulp, and affords an exalted Relish. The *Lansac*, or *Dauphin* Pear, the Green Sugar Pear, the Marquis's Pear, and the *Petit-Oin*, or the Winter's Wonder, are all melting Pears, enriched with admirable Juices.

The *St. Germain* Pear, which, of all the
In December. melting Species, has alone the Privilege to
Winter Pears. be exempted from a flaccid Softness, seems
 ambitious to perform the Honours of the
 Table in the Month of *December*.

Countess. The *Virgoleuse*, which unites an engaging Beauty with a perfect Flavour, is thought by some to have superior Pretensions for adorning the Desert. The *Ambrette*, the Winter Thorn, and the *Landry* Wilding, have also their Partisans, and seldom make their Appearance with the others, without occasioning some Contest for the Precedency; which the Company generally decide, by tasting them one after another, in order to render Justice to all the Competitors.

Count. The three last Species, together with the Good *Lewis*, are never perfectly successful but in the open Air, on old Trees, and in dry Soils; and are intirely insipid in a cold and humid Earth. The *Dry Martin* continues good for several Months, and is an excellent Baking Pear.

The last Species of melting Pears, and
In January. which renders itself the Delight of *January*
 and *February*, is the *Colmar*.

Countess. The *Franc-real**, the double Flower, the

* It is also called *Fin-Or d'Hyrer*, i. e. The Golden End of Winter.

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Cadillac, and the Pound Pear, will grace the Desert for a very considerable Time, and may afterward be baked.

Count. The Fire insinuates its Particles into the Texture of Pears that are most stony, and impregnates them with extremely fine and palatable Salts, whose Efficacy is imperceptible while the Fruit continues crude.

Let us not forget the Royal Winter Pear, which seldom ripens till *February*, In *February* and proves an excellent Fruit, when gathered from an old Tree that grows in the open Air. It affords us a Treasure at a Season when all the perfect Species begin to disappear; but the *Bon-Chrétien* is render'd the Resource of all the Winter, by its Beauty and the exquisite Sweetness of its Juice. The *Bon-Chrétiens* of *Ausch* and *Touraine* have a Fineness of Grain that is almost melting.

Countess. When the *Bon-Chrétien* is too breaking and coarse, we can teach the Fire to correct and render it a very agreeable Regale.

The Months of *March* and *April* have no Stock but this Pear, and the finest In *March* and Kinds of Apples, which continue till after *April*. *Easter*. Such as the *Calville*, the *Englisch* Golden Reinette, with the Grey and Red Spice Apples. The little *Api* sometimes pleases the Eye with the Liveliness of its Colours, and at other times delights the Palate with the exceeding Delicacy of its Juice.

The Number of good Fruits diminishes in proportion to the Advance of Winter: The Liberalities of Nature, and the Precautions of the Gardener, are at last exhausted. But when we seem to be impoverished, and destitute of all the Accommodations we can derive from Fruit, the Mistress of the Family opens a new Conservatory which she had taken into her Regulation, and furnishes the Table anew with most of the Fruits we have already mentioned. In a word, she in some measure revives the Donations of each circling Season.

Some of these Fruits are candied, others are preserved in Liquors, and a third sort is dried in a proper manner.

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When the Quantity of Sugar equals the Fruit in Weight, the Confection will retain its Goodness the longer; but when the Sugar is only half as heavy as the Fruit, this latter preserves its natural Flavour in a better manner, but is sooner subject to Decay: Its Corruption may however be prevented by a thin Spread of Sugar, which will afterwards consolidate like Chrystal round the opening of the Vessels in which the Fruits are preserved: Or, instead of Sugar, they may be thinly covered with a Jelly of red Gooseberries. The boiling of the Fruits frequently disengages their natural Juices, and enriches them with a Perfume that was not imparted even by their compleat Maturity.

Chevalier. This is very evident in Marmalades of Apricots and *Mirabelle* Plums.

Countess. Several fine Fruits, and especially the Apricot, the Peach, and the *Queen Claudia* Plum, when they have been sufficiently boiled with half their Weight of Sugar over a quick Fire, will preserve their excellent Flavour for a very considerable time in Brandy.

The Use of most Fruits may be prolonged to us, by drying them either on Hurdles in an Oven, or on Tiles in the Sunshine; which last is by much the preferable Method. When the Fruits have resigned all their Humidity, we may shake a small Quantity of powder'd Sugar over them, and keep them dry in Boxes. Some sorts of black Damask Plums will retain the Bloom and Azure with which they were tinged on the Tree. *Brugnole* Plums, and those of *Tours*, together with the Cherries of *Montmorenci*, and the *Rouffelet* Pears of *Rheims*, may be properly dried without Honey, or Sugar, or any other Ingredient; and the Pulp is more durable than that which is formed into Confections. Thus may the Generality of Fruits be taught to renew their Appearance in different Figures, and frequently with their natural Flavour, even when their stated Season is long past.

Count. These admirable Fruits, which would soon decay when they have been gather'd from the Tree, acquire, by those confectionary Arts, a Consistence that qualifies them for Transportation, and they are then conveyed from one Province to another.

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Countess. The Merit of dried Fruits is still more extensive; they are waſted over Seas to diſtant Lands; they are ſerved up to the Tables of Monarchs; and proclaim, in the extreme Parts of the World, the Praises of the Region which produced them.



ESCULENT PLANTS and ROOTS.

DIALOGUE X.

The PRIOR. The CHEVALIER.

Prior. **Y**OU will oblige me, my dear *Chevalier*, by permitting me to transcribe that Part of your written Collection, which relates to the Choice of proper Fruits to furnish out a good Kitchen-Garden. I have several Disorders to rectify in mine; for my Predecessor crowded it with a Number of unnecessary Plants, and never consulted any Regulation or Succession of those that are good in themselves. All those that are of any Value present me with their Produce at the same Time, by which Means I am soon left destitute of every Species. What you have shewn me, in your Book of Observations, is a sure Expedient for acquiring the best Productions the Soil is capable of affording; and it exhibits all that necessary and important Regularity, which the Count has observed in the fine Kitchen-Gardens so much esteemed by Noblemen of true Taste, since the Conclusion of the last Peace. We are indebted to *Lewis XIV.* for the Establishment of this excellent Method.

Chevalier. Should not *Monsieur de la Quintinie* be rather consider'd as its Author?

Prior. When a private Person treats a good Workman with Generosity, he only requites him for his Abilities; but when a sovereign Prince caresses a great Genius, he may properly be said to form it, since he unfolds it to View, and animates it to make those happy Efforts which

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which afterwards serve as Models to others. The extraordinary Success acquired by Monsieur de la Quintinie was less owing to his native Genius, than to his ardent Solitude to please at once a Monarch of Taste and the best of Masters. This Disposition enabled him to make those Discoveries in the Art of Gardening, which neither himself, nor any other Persons, were acquainted with till then. This Prince therefore has proved a more auspicious Benefactor to Gardens, than any of those who have render'd their Memoirs dear to Posterity, by their Attention to procure us a Variety of new Fruits, during their Expeditions into foreign Lands.

Chevalier. Have we many Species that have been transmitted to us in this manner?

Prior. You may read in *Virgil**, and other Writers, that the Expeditions of the Greeks into *Persia*, *Armenia*, and *Media*, have supplied *Europe* with the Citron, Apricot, and Peach-Trees. The Wars of the Romans in *Pontus*, under the Ensigns of *Lucullus*, furnished that General with on Opportunity of conveying from *Cerasus* to *Rome* the Cherry-Tree, which was unknown in *Italy* till then. The Princes who engaged in the Crusades presented us, in the twelfth and thirteenth Centuries, with the Damask and St. Catharine Plums, together with several Species of Grapes, which they had collected in the distant Regions they visited: But the Beneficence of *Lewis XIV.* in forming Messieurs *le Nautre* and *de la Quintinie*, has furnished all *France* with masterly Gardeners; or I may rather say, that the Gardens of *Versailles* are become the Academy of *Europe*.

The Art of Gardening, by a proper Improvement of the Energy and Productions of Nature, has supplied us with a Profusion of fine Fruits, whose Duration is equal to that of the Year. To this Art we likewise owe another vegetable Treasure; which, though it be not touched with such shining Colours, is yet rendered pleasing by an immense Variety, and a Succession of Plants that are always new and always useful. I am speaking of Herbs and Roots, which formerly were not produced till towards the Month of *May*, and never out lived the

* *Virg. Georg. 2. Plin. Hist. Nat. lib. 12. & lib. 15. Sect. 30. Hard.*

first Returns of Cold. But the Judicious Conduct of the Gardener can now prolong them through the whole Course of the Year, and cause them to flourish in spite of scorching Heats and chilling Frosts.

Chevalier. Is this Branch of Gardening attended with much Difficulty?

Prior. Its Success depends on several little Operations which are soon attained by Practice; and it would be losing Time to give you a particular Account of the Rules. You sufficiently comprehend what is meant by manuring, harrowing, digging, and stocking the Earth; and have no need of a Dictionary to furnish you with the Idea of laying out of Beds of Roots and Herbage, sloping any particular Bed, raking the Earth with an Iron Instrument with two Teeth, to clear away the useless Grass that impoverishes the esculent Plants; and of opening Passages to the Rain, and facilitating proper Supplies of Water for the Refreshment of the Plantation. Every one knows what it is to dispose Glass-Bells over Strawberries, Melons, and other Productions that are to be raised in Hot-beds; to furnish a Supply of fresh Air to one of those Bells, by raising it with a wooden Fork; to tread down or break off the leafy part off the Herbage, in order to invigorate the Roots; to check those Growths which rise too high, by cutting off the Extremities, that the Remainder may be render'd more substantial; to clear away all Redundancies from Melons, Cucumbers, Grapes, and other Fruits; to bind Endive and Celery, in order to whiten them; to spread Coverings of Straw over Artichokes; to raise high Beds, and sink others to a Level with the Earth; and lastly, to afford them due Degrees of Heat, by surrounding them with Horse-Dung.

Chevalier. I understand the Signification of all these Terms; but they seem to comprehend abundance of Labour.

Prior. They contain nothing that ought to discourage you, and the Execution of all these Particulars may be consigned to the Gardener's Boy; while we reserve nobler Cares for your Attention. It will one Day be your Province to direct the Labours of others; they will render

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der you their Assistance, and you shall charge yourself, if you please, with the Order and Judgments by which their Works are to be conducted.

Chevalier. Suppose our Family should intrust me with the Management of the Kitchen-Garden, in what Manner would it be proper for me to proceed?

Prior. It will then be incumbent on you not to suffer any Part of the Garden to remain useless, nor any Portion of the Year to be destitute of Esculent Plants. You are therefore to acquire a particular Knowledge of the proper Season for planting every Herb and Root; and likewise of the Length of Time they ought to continue in the Earth; that, by knowing when one Species should be taken up, you may prepare an immediate Succession of others.

Chevalier. I am sensible that every Circumstance is regulated by the Knowledge you recommend; but in what Manner is it attainable? In my Opinion there are Thousands of different Plants in a Kitchen-Garden.

Prior. This is such a Branch of Natural History and Oeconomy, as is very important, and easily acquired. A Gentleman is curious to gain a right Idea of the *Mexican Cocoa*, or the *Mango of India*. But it is certainly of more Consequence to him to be capable of giving such proper Orders as will prevent a Sterility of Asparagus, Pease, or Melons in their due Seasons; and a Knowledge of this Nature is easily attained.

Kitchen-Garden Plants, exclusive of Fruit-Trees, may be distributed into seven or eight Classes. Such as Roots, Verdures, or culinary Herbs; Salletting, Furniture of Sallet*, strong Plants, sweet Herbs, Legumes properly so called, and Earth-Fruits.

Chevalier. What do you mean, Sir, by Legumes properly so called?

Prior. This Name, in Strictness, belongs only to such Productions as Pease, Beans, Lentils, *French Beans*, and Lupines; but Custom has extended it even to Roots, and the Generality of culinary Plants.

* The *French* by Furniture mean those lesser Herbs that are the Ingredients of Sallets; such, for Instance, as Chervil, Cresses, &c.

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Chevalier. If you please, Sir, we will begin with Roots; and I shall be glad to know which are most used, and in what Seasons of the Year they are planted.

Prior. Roots comprehend Turnips, Parsnips, Carrots, Radishes, Salsify, Skirrets, Beet-Radishes, and some others.

Salsify is of two Sorts, the common and the *Spanish*, or Scorzonera, whose Growth is larger and more esteemed than the common Species. Scorzonera is sown in Spring, and likewise in *August*. It continues two Years in the Earth; but it is customary to sow a Bed of it annually, that there may always be a sufficient Supply. The common Salsify is sown in Spring, and continues no longer than the *Lent* Season of the ensuing Year. These Roots succeed in a Soil that is something rich, and it ought to be extremely soft and pliant; otherwise the Resistance this Plant receives from a Mass of Earth that is too compact, forces it into a forked Growth, which deprives it of all its Merit.

Parsnips, and white, red, and violet Carrots, are sown, during the Month of *April*, in a light and sandy Soil, which ought to have a moderate Intermixture of Humidity. It will be necessary to hoe them, lest they should be impoverished by Weeds; and all Redundancies should be thinned, as is practised on the Salsify, in order to fortify the Plants. Their Growth may likewise be enlarged, by cutting off all the green Tops half a Foot above the Surface of the Earth; and if you are desirous of affording them an additional Improvement, let a heavy Cylinder of Wood be rolled over the Bed in the Month of *September*. The Roots are drawn out of the Earth before the Winter-Season, in order to their Preservation in the Repository, under a Covering of Sand.

Skirrets are to be sown and planted very thick, because they enlarge their Growth but little, and are only kept till *Lent*.

Turnips are sown in Spring, that we may obtain a Growth of them in Summer. They are likewise sown in *August*, and drawn two Months after. They must be preserved in some dry Place, where they may be disposed into Heaps, and without any great Precaution, through
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the whole Winter-Season. The little Turnips of *Champaigne* are in the greatest Estimation, and never acquire the same Flavour, when they are sown in any other Province.

Radishes require the softest Soil, and frequent Refreshments of Water. They are sown, and afterwards reared, in the Month of *February*, by keeping them covered. They remain in the Earth no longer than five or six Weeks, and are then sowed a second Time, between Rows of Lettuce and Endive, in order to obtain a Supply of them through the whole Summer-Season. And thus is the same Soil capable of producing a double Growth of these Roots.

Beet-Radishes are multiplied by Seed: They are sown and transplanted in the Spring, and drawn out of the Earth, before the Season of Frost, to be preserved under a Covering of Sand.

Potatoes † are Excrescencies or Tumours, detached from the Roots of a very high Plant, that has been transmitted to us from *Tompinambo* in *Brasil*. Others declare it was originally brought from *Canada*. These Roots are very palatable when boil'd, and resemble the Artichoke in Taste.

Red *Truffles*, or Apples of Earth, are of different Kinds. Their Substance is fleshy, and vegetates in sandy subterranean Crevices; but they have neither Stem nor Root.

Chevalier. By what Means then can they imbibe the Juices of the Earth, and acquire Accessions of Growth?

Prior. They absorb their Nourishment through their Pores like Sea-Plants; and when they are advanced more or less in Magnitude, they grow dry, and are then perpetuated by their little Seeds, which are imperceptible. Swine search for them with great Avidity, and when they have found any by digging into the Earth, they utter their Joy with so much Noise, as discovers their good Fortune to the Shepherds, who immediately drive them away with their Crooks, and reserve this Acquisition for more delicate Palates.

My Observations on the verdorous Class of Plants, will

† The *French* call them *Taupinambours*, or Pears of the Earth.

take up as little Room in your Book of *Memorandums*, as my Account of Roots. Verdures, or Culinary Herbs, are Sorrel, Patience, White-Beet, Parsley, and several other Species, with which you are sufficiently acquainted.

Sorrel, as well the pointed as the round-leav'd, is propagated from little bright Tufts, or Seeds, which are sown from *March* to *September*. A Bed of Sorrel may be cut for six Years, provided it be nourished from Time to Time, with some Inches Depth of Compost, and the Soil of a Sewer.

Patience is a Species of Sorrel.

Orach is sowed in Spring, and is a very transient Plant. It furnishes Soops with an Ingredient of a golden Complexion; and is likewise intermixed with some forced Meats, that are much esteemed.

White-Beet is sown in *March*, and afterwards transplanted. It is cut for daily Use, and shoots out a second Time, like Sorrel. It is likewise preserved, during the Winter, under a Covering of Dung; and its Stalks will acquire a perfect Whiteness towards the Close of the ensuing Spring.

Chevalier. For what Reason, Sir, is this Plant intermixed with a Growth of Artichokes? Is it in order to whiten them in the Shade?

Prior. It is rather to employ the Field-Mice, who will then spare the Artichoke, and exercise their Teeth on the Stems of Beet, which prove more tender, and are configned to the Avidity of those Animals, without any Reluctance.

Bitter Soops, which, however, are very salutary, and frequently preferable to foreign Remedies, are made with *Borrage* and *Bugloss*. The *Alleluja* is more refreshing, and is a Species of Truffles, propagated by several Tufts. These three culinary Plants may be multiplied from Seeds, in any Season we please.

Parsley, as well the common Sort, as the curled and the *Macedonian*, which is more aromatic than the other two Species, is very serviceable to us by its Leaves and Roots. It is sown in Spring, and its Leaves shoot out a-new; after it has been cut. The *Macedonian* Parsley

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fley may be whiten'd for winter Sallets, like Celery, which seems to be a fourth Species of Parsley.

Spinage is sown in the Months of *August* and *September*, and requires an open Spot of Ground of the best kind. That which is first sowed is fit for use at the latter end of Autumn, and continues even in Winter. The other sorts, which ought to be carefully covered, are the Manna of *Lent*.

Cabbages, whose Species and Utility are generally known, are sown in Spring, and for several successive Months, in order to furnish us with a Supply in different Seasons. They are transplanted at first very thick, like young Trees in a Seminary, to prevent a large Plot of Land from being wasted, while their Leaves expand but little. They are likewise transplanted a second time, when they have acquired a competent Vigour, and their mutual Distances are proportion'd to their due Spread. They are taken out of the Earth before the Winter-Season, and are hung up by the Roots, in order to their Preservation; or it may be more proper to plunge their Roots, in Sand. We may be furnished with this Plant most part of the Year.

Colliflowers are sown and preserved like the common Cabbage; their best Seeds are brought from *Cyprus*: and if we sow them during the Months of *August* or *September* in Trenches, that they may be shelter'd from injurious Weather, and transplanted in the Spring, we may be furnished before the hot Season, and during the whole Year, with this delicious Plant, which was formerly thought a great Rarity at the end of Autumn.

Brocoli, or the little Leaves which spring new from the Stems of Cabbages that have been cut, are useful in a Variety of Ragoûts that are served up at the best Tables.

Let us now proceed to Sallets, which always constitute an agreeable part of a fine Regale. Though the use of Lettuce, Endive and Celery is greatly diversified in the Kitchen, yet these Herbs are the Principal Ingredients of Sallets, and are rendered attainable in all Seasons, by sowing them every fifteen Days, and by the Inequality of Vegetation, in each Species. Lettuces alone refresh us for the space

space of six Months and more, by their successive Growths. Shell and Passion Lettuces resist the Frost, especially if Care has been taken to dispose them, during the Autumn Season, in a good Exposition, and likewise on a shelving Bed. When these Precautions have been observed, the Plants will begin to cabbage in the Month of *March*. The little curled Lettuce, and the large one, will soon cabbage in a hot Bed, and under a Bell. The Royal Lettuce, the *St. Germain*, and large white Lettuces, the white *Mts*, and especially the *George* Lettuce, cabbage as successfully as one can wish, even to the hottest Season, when they have been replanted in the natural Earth. We sow for the Summer Season, the *Bologna* and *Genoa* Lettuces together with those that are white, red, and green, and all the other Species that shoot up with some difficulty. We sometimes bind them that they may cabbage the better. The *Perpignan* and Passion Lettuces succeed even in Autumn. The Winter seems emulous to engross the rest, and is proud of those Corps of Herbage which his Envy will not suffer the Spring to enjoy.

The *Roman* Lettuce, when it has been properly sown and bound, is always ready to supply the place of other Lettuces, in the Summer Season, when the Heat precipitates their Growth too much.

This Crop is succeeded by another of Endive and Celery, which continues through the whole Winter. Endive is sown from *April* to *September*, and is replanted at large, in different Periods of Time; after which it should be bound, in order to whiten it; and when there happens to be no Conservatory for preserving it under a Covering of Sand, it is usual to place several of its Plants one against another, four or five Fingers deep in the Earth, and the whole is cover'd with a Surface of dry Dung. The Heads however ought to be aired, by removing the Dung in fine Weather; and this Precaution will preserve the Plants from rotting.

Celery.

Celery is sown in the Spring, and transplanted in Lines to some depth.

When it becomes strong, the Earth is heaped up against its Sides, as high as the Leaves, which ought to be cut off. It grows white at the Expiration of a

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a Month, and may be kept in the Conservatory, where it continues to whiten, if the Air be excluded.

Wild Endive, which is render'd useful by its Roots and Leaves, is sown in *May*, and whiten'd for the Winter Season; and if the Heart be lodged in Earth or Sand, it may be cut three or four Times.

After this Account of Sallets, it will be proper to acquaint you with their Furniture; which are moderate Intermixtures of some particular Herbs. Some of these are the Produce of all Seasons; as Pimpernel, for Instance, and Chervil; by which latter I mean, as well the common sort that is sown every Month, as the Musk-Chervil, whose Growth is uninjured by Frost. The other Classes vary according to the Seasons; particularly Green Purslain, which is sown under a Bell, in *February*; Golden Purslain, which is sown in a Bed, in the Month of *May*; Garden Cresses, which are sown monthly during the summer Season; Water Cresses, which are not the Produce of a Kitchen Garden, but are gathered from the Banks of Rivulets, and running Springs; Bucks-horn Plantain, which is cut like Sorrel; Corn Sallet, and wild Radishes, which may be sown in the Kitchen-Garden, or gather'd on arable Land, where they spring up spontaneously every Year.

A greater Moderation will be necessary in the Use of fine odoriferous Herbs; such as Tarragon, the common as well as the Citron Balm, *English* Chives, Dittany, Anise, Fennel, Balm Gentle, Sweet Basil, and Rocket.

These fragrant Herbs usually form the Border of the square Compartments, and are associated with Thyme, Hyssop, and Sage; Lavender, Marjoram, and Rosemary; Wormwood, and Camomile; Rue, Violets, and Savory. This last may be ranged with Pease and Beans, which they will serve to season, with a Mixture of Lettuce.

In order to elude the Severity of some Winters, and to secure an agreeable Variety for our Tables, due Preparations are made, at a proper Time, for serving up crude Sallets, with such as are pickled. These latter are composed of *Catalonian*, or other white Onions, Beet, Celery, and the Tops of Asparagus; with several other Herbs and Fruits pickled in Vinegar; such, for Instance, as small Cucumbers, Stone Parsley, and Monks-hood, which is the unblown

Flowers of *Peruvian Cresses*, and very common at present; *Crista-marina*, which is gathered in Places adjacent to the Sea; and Capers, which are not the Fruit, but the Buds of the Caper Bush: and which, if they be suffered to continue long on the Plant, will be expanded into Flowers, and produce Fruit. The Caper Bush delights in Ruins, and the Crannies of Walls.

As the Generality of *Legumes* are very insipid, a more exalted Flavour is imparted to them from strong Plants, whose volatile and poyant Salts may be considered as natural Seasonings. All of them have some Similitude to the Nature of an Onion, which is the Species most in Estimation. The other Classes are the Leek, the Scallion*, the Eschalot, and the Rocambole†. Garlick is sufficient to excite the most languid Palate. It is much used in the Country, and may properly be called the *Peasants's-Alexipharmic*.

Chevalier. It proves a real Poison to others; and *Horace*, who had experienced its ill Effects in a Ragoût at the Table of *Mæcenas*, imagined he was infected with all the Poisons of *Colchos*.

Prior. He had the Satisfaction, however, of loading it with those Imprecations, which you undoubtedly have read‡.

Chevalier. I have interrupted the Culture of strong Plants.

Prior. Garlick is sown at the Beginning of the Spring, and is afterwards transplanted, that its Growth may be enlarged in a more unconfined Situation. It is drawn out of the Ground before the Winter Season; and may be preserved as long as is thought proper, by covering it with Sand, in the Conservatory, or disposing the Plants, one against another, under a large Heap of dry Dung.

Onions are sown and transplanted in the same Manner. They are trodden down at the Beginning of *September*, to give them an Increase of Substance, and are preserved in

* A kind of degenerate Onion, propagated only from Seed.

† A sort of Wild Garlick, otherwise called Spanish Garlick, which is multiplied both by Cloves and Seed; and this latter is about the Bigness of ordinary Pease.

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Heaps, from all Humidity and chilling Frosts. They may likewise be sown in *September*, and transplanted in Spring, to furnish an early Supply.

Real *Legumes* are Beans, Pease, and Kidney-Beans; the Species of all which are greatly diversified; and they generally succeed best in a light and sandy Soil. Most of them require the Aid of long Sticks for their Support, and a free Circulation of Air, between the Rows in which they are planted, in order to render their Produce more plentiful. It is usual to pinch off Part of the Stalks of Beans, in order to strengthen That and the Shells. This Expedient likewise destroys Legions of Vermin that fasten on the upper Part of the Stem, where the Verdure is most tender. If we sow Pease from Month to Month, and even in the Winter-Season, we may be accommodated with fresh Crops, throughout the greatest Part of the Year, and without any Difficulty to the End of *October*. The rest are dried, to be used in Winter.

When the Kitchen-Garden has afforded us this Profusion of Roots, and Herbs, and Pulse, it compleats its Liberties by such Earth-Fruits as are more estimable than all its antecedent Productions. These Fruits are Melons, Cucumbers, Squashes*, and other Citruls; Asparagus, Artichokes, and our Lady's milky dappled Thistle†. But I shall not include in this Catalogue the three or four Species of Gooseberries, any more than Raspberries, or Strawberries, which have been already ranged among the Classes of real Fruits.

Let us begin with Asparagus, whose first Culture is something long in its Continuance: Asparagus. But if it then requires some Degrees of Patience, a Bed of these Plants will afterwards afford you an ample Compensation for fifteen Years, and sometimes more. We don't wait till a Bed is exhausted before we plant another, but are careful to form this in a Spot of Ground, which has not, till then, been appropriated to Asparagus; by which

* A small Sort of Pumpkin lately brought into Request.

† This is worth Esteem; for the young Stalk, about *May*, being peeled and soaked in Water, to extract the Bitterness, either boiled or raw, is a very wholesome Sallet, eaten with Oil, Salt, and Pepper. *Mortimer's Husbandry*, Vol. II. p. 154.

Means the intended Plantation will receive a more copious Supply of the Juices necessary to its Nourishment.

Chevalier. Since this Plant produces such a fine Increase, I shall be glad to understand the Manner of its Cultivation; and I begin to entertain a Relish for practical Philosophy.

Prior. New Plants may be propagated from the Seed; but the most expeditious Method will be to raise them from rooted Plants that are two Years old. Two Rows of these, adjusted by strait Lines, should be inserted in Beds that are three Feet and an half in Breadth; and the Path, by which they are separated, ought to have a Width of two Feet. The Beds, which terminate the Square, are allow'd but half the Breadth of the others, and are to receive only one Row of Asparagus. Along the Extent of these Lines, several Holes must be open'd about fifteen Inches in Diameter, and four in Depth; and the Center of each Hole should be opposite to the Point where the Verges of the two other Openings are contiguous. In the Middle of each Aperture, a small Eminence must be left, in order to support a Tuft composed of two Plants of young Asparagus. These the Gardener depresses with one Hand, while he extends the Roots into a circular Spread with the other. When this Operation is compleated, he covers them with Earth, and then treads it down, that no Vacuity may be left; and in this manner is every Opening to be fill'd. The Beds should be sunk a Foot lower than the Level of the Walks. The Earth that was dug up before the Insertion of the Plants must be laid in a slanting Heap on the Path, from whence it ought to be gradually scattered each Year with an Intermixture of Dung over the Bed, which will at last be raised as high as the Path. Four Years after this Plantation has been formed, you will cut very fine Asparagus, and the old Plant may be then returned, in order to be employed in a different Function.

Chevalier. April seems to be the Season for Asparagus; by what Means then are we furnished with such as are very tender, in the Month of January?

Prior. They are procured at the Expence of some other Beds, which are sacrificed to promote their Appearance in that early Season. In the Month of November, all the Earth is scooped out of the Paths, which separate the Beds, and the Hollow is then fill'd with fresh Horse-Dung,

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to a Depth of three Feet, and a Width of about two. This Mass is raised eighteen Inches above the Level of the Soil, and when the Heat causes the first Plants of Asparagus to shoot up, they must be covered with Bells, through which the Light tinges them with the finest Green. These Bells should be cover'd with a Surface of dry Dung, during the Frost; and when any Snow has fallen, it must be carried away with the Dung, to prevent its chilling the Plants, and the fresh Dung, which is substituted in the room of the other, ought to adhere to the Bells, and not to the Asparagus; because it will whiten them, instead of promoting their green Tincture. When the Paths are likewise properly recruited with fresh Dung, and raised to the Height they lost by the Dissipation of the former, we may be certain of a Growth of green Asparagus in *January*; and it will continue for a Month or six Weeks in each Bed, and will be likewise renewed by proper Renovations of Heat, till some other Plantation attains its natural Maturity at the Return of Spring. The Beds that have been rendered productive by this artificial Heat, will require four Years for the Recovery of their original Temperament, and will then be qualified for a second and last Operation.

The Culture of Artichokes is attended with less Difficulty. The whole consist in lodging Artichokes. them in an excellent Soil, enrich'd as much as possible, and in which the Shoots that have been detached from the strongest Plants, with a few of their Roots, must be inserted Chequerwise, and at the distance of three Feet or more from one another, if the Soil be strong, that they may have sufficient Room to expand their large Foliage; they should likewise be shelter'd from Frosts, by forming the Earth round their shorten'd Leaves, or by covering the whole with long Dung sufficiently dry. The best Shoots are white, in the Part where they adhere to the Roots; those of a moderate Goodness are formed into a Nursery to be transplanted, as Occasion may require, into the Places of such as die away.

When the Stocks are strengthened, and checkt in their autumnal Growth, they will yield Fruit in the Spring; and those which are planted in this Season will be productive in Autumn. When the Stock, which begins to unfold its Fruit in the Spring, is cut low, it will shoot forth new

Heads in September. Their Culture must be regulated by these Observations, in order to secure two Growths of Fruit.

Chevalier. As the same Plant is capable of such a double Fertility, we need only suffer one Part of it to shoot up in Spring, and check the other, which we intend to reserve for the Autumn Season.

Prior. This Precaution may be proper, when there is only one Bed of these Plants. The Artichokes of the second Growth, and especially those that are Purple-colour'd, being divested of their Leaves, and strung like a Row of Beads, with a Slip of Paper between each, may be preserved the whole Winter, in a dry Place, in order to be used as an Ingredient with Mushrooms, in Ragoûts, and Works of Pastry.

Chevalier. How long will a good Plant last?

Prior. It generally decays at the End of four Years. Part of it, however, may be annually renewed, by which Means the Discontinuance of its Fruitfulness is prevented, and even that Part of it which we destroy has its particular Use. We collect the Leaves of those Artichokes that are to be succeeded by others; we then bind and cover them with Straw, which ought to exclude the Air from every Part but the Top. They will then whiten like *Spanish Cardons*, whose Culture corresponds very much with that of Artichokes. This String of Leaves may be preserved the whole Winter, in the Sand of the Conservatory, and they will then be perfectly white, and lose all their bitter Flavour.

Chevalier. Let us now proceed to the Culture of Melons.

Prior. You forget the Cucumber, as well as the Citrus and Pompion; but we ought not to disregard them. They are useful in Soops and Ragoûts, and furnish Numbers of People with Bread and Medicinal Remedies. Their Cultivation would be entirely agreeable to that of the Melon, were they formed with the same Precaution.

The Melon is one of the most perfect Productions of the Kitchen-Garden, and one of the most delicious Refreshments that Nature, amidst her constant Attention to our Wants, affords us in the Season of violent Heat. In order to raise it to as much Perfection as we desire, it

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will be necessary to chuse an Exposure to the *South*, and a commodious Shelter, which ought to be secured against injurious Winds, by Mats properly disposed. The Beds should be raised within a Foot of one another, that they may be heated more effectually, by filling the Interval between them with new Dung, which ought to be recruited from Time to Time. These Beds must be covered with a surface of excellent Mould, eight or nine Inches in depth, and intermix'd with fresh Earth, together with Ashes and the Husks of Grapes that have been press'd. The Melons are sown in *February*, after the Seeds have been steep'd, seven or eight Hours, in Water, or Wine sweeten'd with Sugar. The Seeds are sown, by setting four in each of the Holes that are opened along the Line, and which ought to be at the mutual Distance of two Fingers breadth. Small Salleting may be likewise sown between the several Lines.

When the young Melons have shot forth a few Leaves, they ought to be transplanted into another Bed, and five or six of them should be placed under each Bell. These must be cover'd with Straw, to preserve the Vines from Frost, as well as from sultry Winds, which would infallibly scorch them. If the Bed should prove too hot, it will be necessary to thrust a Pole into its Earth, at proper Intervals of Distance, that a sufficient Number of Vents may be open'd, for the Evaporation of the immoderate Heat. When the Vines have attained a good Degree of Vigour, they should be taken out of this Nursery, and transplanted at Leisure, with their adhering Earth, into a third Bed, and at the Distance of two Feet from one another. All luxuriant Shoots should be retrench'd, in order to invigorate the rest of the Plant; but its Improvement is rather obstructed, than promoted, by the injudicious Practice of depriving it of the two seminal Leaves, during its first Growth; and afterwards of the Male-Flowers, which are improperly call'd false Flowers, since the Plant has not received these Appendages in vain*. You are sensible, Sir, that they render it very important Services, at the Completion of which they wither of themselves, without making it necessary for Man to aid the Operations of Nature, and to reform her, as tho' she had err'd in her Process.

* See Dialogue XV. of the first Vol.

Chevalier. But don't we act as if we thought it necessary to rectify her Conduct, when we thin the Fruits on a Tree, and clear away whatever is superfluous?

Prior. That Proceeding is not to be considered as any Reformation of her Works. Man has an undoubted Power to form his Choice, and if he prefers a small Quantity of very amiable Fruits to a Profusion of such as are not altogether so alluring, he may secure a large Share of Nourishment to some, by retrenching the Growth of others, in a very regular Manner, and without the Implication of any Deficiency in Nature. This Method is properly observed in the Cultivation of Melons, and when there is a Certainty of acquiring two or three that are excellent on one Stem, all the others may be suppress'd, in order to embellish those that are selected from the whole Growth.

When the Nights happen to be mild and favourable, the Bells should be removed, that the Fruit may be forwarded by a free Circulation of Air, and frequent Refreshments of Water. When the Melons have attained the Size of a large Orange, it will be sufficient if they are water'd once in three Days; and when they have at last acquired their due Dimensions, all Waterings may be entirely discontinued: Dryness itself being then proper to give them a more sweet and vinous Flavour, than they would receive from the Sap, were it diluted with a large Quantity of Water.

Chevalier. What a surprising Variety of useful Fruits and Plants do we derive from an inconsiderable Spot of Earth!

Prior. I am not so much astonished at the rich Abundance of these Productions, tho' even this has the Air of a Prodigy, as I am at the Wisdom with which they are all distributed, in proportion to the Necessities that are peculiar to the various Seasons and Climates. When the Earth is at Rest in the Winter Months, and suspends its Fertility, in order to be re-impregnated with a new Supply of Juices, we enjoy an ample Provision of such Fruits and Herbs as are substantial, and capable of a long Duration. The Earth in the Summer Season daily diversifies its Liberalities, and seems attentive to present us with such refreshing Fruits, as are proportioned to the Fervours of the Solar Heat. To this Class we may refer Stone Fruits, Melons, Figs, Peaches, and melting Pears. The Fruits are likewise as exactly
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adapted to the Climates, as they are to the Seasons. When we advance towards those Regions where the Sun's daily Revolutions are vertical to the Inhabitants, we constantly meet with Fruits, that are not only melting, like the Melon, but likewise acid, and replenished with Juice of an icy Coolness, qualified to allay the immoderate Rarefaction of their Blood. Such, for Instance, are Lemons, and Citrons; Oranges, and Pine-Apples. When I return from the Torrid Zone, towards our Climate, I begin to discover the Vine, and become sensible that it appears in those Parts of the Earth, where it is capable of acquiring a sufficient Maturity; in Consequence of which, the Inhabitants of the Temperate Zone and the Northern People, whose Blood is condensed by the Cold, are accommodated with spirituous Liquor, capable of counterpoising the gross Weight of Air that gravitates upon them.

Chevalier. But would not this Liberality of Nature be entitled to higher Strains of Gratitude from us, if it afforded all sorts of Fruits of every Region, and every Season?

Prior. The great Author of Nature is always liberal to his Creatures; but he acts with Oeconomy in the Dispensation of his Gifts. If his Bounties had no Limits nor Regulation, they would soon be productive of the greatest Disorders; whereas his Oeconomy is the Source of innumerable Advantages to Society. This makes it necessary for Man to be in constant Exercise; and he is guarded from a Multitude of Vices, by not being permitted to indulge himself in Indolence and Inactivity. He not only finds himself necessitated to labour for his Support, but is made sensible that the Fruits of the Earth are distributed in such a Manner, as obliges him to exert all the Virtues and Talents he has received, that he may acquire a Participation of those Blessings; the Refusal of which to one Country, while they have been accorded to another, introduces a Train of urgent Necessities, ardent Desires, and industrious Efforts. The Accommodations that are proper and peculiar to each Province, place the several Inhabitants in a mutual Dependence on each other. Their Wants are the social Ends that unite them, and they create a kind of Proximity between the most distant Regions, by the Means of Navigation, and a reciprocal Exchange of their respective Productions.

d. ctions. Agriculture and Commerce, which are the two Master Springs that impart Motion to Society, afford Mankind an Opportunity of exerting their Prudence in a right Judgment of mercantile Commodities and Manufactures, and the proper Seasons for their advantageous Sale; and likewise present them with a Variety of Conjunctures, in which they may display their Patience, in a Series of Labour, and their Fidelity, in an Intercourse of Traffic, as well as their Oeconomy, in the Use of those Things, which are not always so attainable as they may be inclined to wish.

The same View is evident in the Inequality of Seasons. Man in some particular Months of the Year, must exert all the Vigour he possesses. He is obliged to employ himself in Tillage and Planting, in Sowing and Harrowing, in Replanting, Gathering and Selling; and is frequently charged with most of these Occupations at the same Time. In another Season, he must have Recourse to a Number of Precautions; he gathers in whatever he has been able to secure from the Rigour of Winds, and the Inclemency of a bad Season. He stores up, he arranges, he preserves the Produce of his Land; and at his Leisure makes the necessary Preparations for the ensuing Year. This moderate Excise, which, to him, has the Effect of Repose, enables him to resume more active Labour in the returning Spring.

Thus has the Deity been pleased to honour Man, and to habituate him, if possible, to his providential Operations. He awakens and allures him to Industry, by consigning to him the Productions he has cultivated, as well as those, which he is sedulous to acquire from other Quarters; and by reducing him to the Necessity of becoming destitute of many Enjoyments, when he neglects to procure them; or of seeing them degenerate, when he suffers himself to be remiss in their Cultivation.

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D I A L O G U E X I.

The PRIOR. The CHEVALIER.

Prior. **S**INCE we are to be alone for a few Days, we may lengthen our Walks as much as we please, without incommoding any Person whatever,

Chevalier. Let us take a View of the Country to-day,

Prior. This Path leads us to a rural Scene of arable Lands, where you will see a Garden plan'd out in a new Taste.

Chevalier. I am persuaded, Sir, that it pleases you, because an Air of perfect Simplicity reigns thro' all the Prospect.

Prior. As plain and undiversified as this Culture appears, it has cost more Labour than the finest Parterre.

Chevalier. I think, the Husbandmen, in that Field, make but a slow advance with their six Horses. Do but observe, Sir, what vast Clods they have to turn; can Seed be sown in such Masses of Earth?

Prior. They defer that Part of their Husbandry till the Month of September; and the Land must first be plow'd a-new.

Chevalier. The Labours of these poor People are very fatiguing; and I really pity their Condition.

Prior. You have Reason to be affected at their laborious Life; but we are Objects of greater Compassion than they,
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whenever we are unemploy'd. They are only acting in their proper Order.

Chevalier. I grant it, Sir; but there is something in that Order, which astonishes and perplexes me. When I cultivate a Flower, I am only engaged in a pleasing Amusement; but when Corn is to be raised, the Fatigue is excessive. Would not the contrary of all this have been much more reasonable? I appeal, Sir, to your own Judgment in this Particular. Let it be a difficult Employment to propagate a Bloom of Violets and Jonquils; those who are willing to submit to the Fatigue may raise these Flowers if they please; but I should think Bread ought to be procured without any Toil.

Prior. Our Fondness for a Life of Ease, naturally inclines us to think in that Manner; but if this Ease be the very Circumstance which the Author of Nature intended to banish, can you imagine that you have any just Cause to complain? We are the Workmanship of his Hands, and he has regulated our State of Being, agreeably to his own Will. Let us therefore be attentive to the Wisdom of his Ordinations. Flowers and Fruits, the Pleasures and necessary Accommodations of Life, are all granted to Labour, and refused to Indolence. But there is the utmost Difference between the Labours that furnish Man with such Enjoyments as only minister to his Delight, and those that supply him with his Bread. The first are entirely free, and seldom attended with Toil; the second are indispensable and fatiguing. Providence was inclined to gratify Mankind with Flowers, and a sufficient Quantity of fine Fruits, upon easy Terms; and the principal Merit of these Benefactions consists in the pleasing Impressions they communicate to their Possessors. The graceful Air of the Gift would have been diminished, in some measure, had it only been attainable by Toil, and Mankind would naturally disregard Satisfaction so little necessary, were indefatigable Labour the only Means of acquiring them. The Cultivation therefore of Flowers, and even of most Fruits, is only an amusing Employment to Man, and the Exercise of an elegant and ingenious Curiosity, which requires nothing more than the Exertion of a moderate Industry; which, instead of proving a Fatigue, is rather a Recreation to him, after his daily Labours, and is a Work that entirely results from his own Choice.

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The Circumstances are all different with Respect to Herbs and Roots, that are Part of his Aliment, and Bread that constitutes his chief Support. He is not left in the same State of Indifference, in regard to these Particulars; and as they are rendered absolutely necessary to his Welfare, they are to be acquired by a Series of real Labours, daily Assiduities, and the copious Sweat of his Brows. In a word, Providence has render'd these Toils as necessary to Man, as the Bread he eats, and altogether as interesting as Life itself.

But as painful as this Labour may prove, it is far from Overwhelming him with its Fatigue. The Earth, which requires the Aid of his Hand, animates him to Industry, by its faithful Compensation of his Cares. Whatever it borrows of the Husbandman, it punctually repays him, and with such an Increase as almost exceeds Belief. It multiplies the Seed it receives, in proportion to his Diligence in its Cultivation; and is not subject to those impairing Decays that are often occasion'd by a length of Years. It annually assumes the Graces and Vigour of a lively Youth, thro' a Succession of many Centuries; and when its pregnant Womb has teem'd with the most fertil Harvest, the Repose of a single Year, or even of a Winter, is sufficient for the Reparation of all its Losses.

The Fecundity of the Earth.

Chevalier. I confess my Mistake, and am now convinced, that Necessity is the properest Motive to incite Mankind to Industry. But is the Earth, Sir, so fertil as you are pleased to represent it? I think, at least, there are several Soils absolutely incapable of producing Corn.

Prior. All sorts of Soils are not qualified for the Production of all sorts of Seed. Some are so light and sandy, that all the Juices, which have been deposited in them by the Air, are evaporated in a short Time. Corn therefore, which requires a strong Nourishment, would be incapable of subsisting in such a Situation. On the other hand, there are Soils so impliant and clayey, that they are almost impenetrable to every kind of Seed. And lastly, there are others that preserve a Mediocrity, more or less just, between those two Qualities, and are capable

The Variety of Soils, relative to that of the Seed.

of

The

of different Productions, in proportion to their corresponding either with the Nature of Sand, or with that of Clay.

This Diversity of Soils is the Effect of a wise Design, and is evidently adapted to the Variety of Seeds ; some of which require a light, and others a gross Earth ; while a third Class delights in a Soil of an intermediate Nature.

Tho' Corn is intended, by the Deity, to be our chief Support, we are not destitute of Variety, in that kind of Food, since he has multiplied it into several Species ; such as Wheat, Rye, and Barley ; Millet, and Rice ; Oats, Mayz, and Lentiles ; Pease, and a Number of other Kinds. Each particular Species of Grain has its Usefulness and Propriety, of which Man is always the ultimate End. Some are intended for his own Nourishment, others for the Subsistence of the Beasts that serve him, or to fatten those whose Flesh is part of his Food. Some Species of Grain furnish him with Liquors ; the most common and nutrimental of which is Beer. This imitates the spirituous Quality of Wine, and supplies the Want of it, in those Years when the Vine has been deficient ; and in those Countries that are not favourable to its Growth.

Wheat, which is the strongest Nourishment and Support of Man, seldom succeeds but in such Soils as are hot or vigorous, or, at least, marshy. Rice, which is likewise a very substantial Food, delights in a moist and fat Land. Rye prospers in a moderate Soil, and is sometimes contented with the lightest. Barley, Oats, Buck-Wheat, and Miller, thrive in a sandy Ground, and will likewise grow in the best Soils, when they have been well pulverized.

Rice acquires its greatest Perfection in *Asia*, where it is the usual Food of the Inhabitants. There are likewise some Soils in *Europe*, where it is cultivated with Success, as in *Piedmont* and *Spain*. Wheat and Rye are the Support of the *Western* Nations, but their Use has been communicated to several Provinces in *America*, where they prove very prosperous. Mayz, or *Turkey* Corn, was originally the Food of the *Americans* ; but is now cultivated in several Parts of *Asia*, and in our Provinces of *Bresse*, *Burgundy*, and the *Franché Comté*.

The Variety of Soils facilitates the Progress of all sorts of Grain, and our Accommodations are multiplied by the Diversity of these. A Grain, which serves for Food in one

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Country, is frequently employed as a salutary Remedy in another. When any unforeseen Accident has deprived us of the Corn that was sown before the Winter-Season, some other Species of Grain, which we see in the Month of *March*, is substituted in its Stead. A Casualty of this Nature happen'd in the Year 1709 ; but a Neighbourhood of different Soils affords the Inhabitants of most Countries an Opportunity of regulating the Choice or Intermixture of the Grain they select for their Food, agreeably to their Taste and Circumstances. In Consequence, therefore, of the wise Proportion, which Providence has established between the Nature of Lands, and the Diversity of Grain ; every Soil is capable of some Fertility ; every material Want is relievable by a timely Supply, and every Temperament of Earth may be render'd satisfactory to the respective Inhabitants.

Chevalier. But by what Means, Sir, can even the richest and most compact Soils be render'd fertil, without any Intermission, and from whence do they derive the Substance of those Harvests which are annually reaped ?

Prior. The Aid of Heaven, and the Co-operation of Man, are necessary to form good Soils, and continue their Fertility. Instead of receiving from the Air those chimerical Influences, which were formerly supposed to descend from the Moon and Stars, they derive from it those substantial Emanations, which are composed of Water, and Oil ; Salts, Air, and Fire ; by whose Ministration the various Soils are really augmented, and work'd into Action, while Man's Province is to furnish their Culture and Manure.

The Sources of the Earth's Fecundity.

The Effects of Culture frequently open the Surface of a Field, and facilitate the Influx and Distribution of the Principles of Vegetation ; and yet the Multitude of Seeds that imbibe them, and the Evaporation, which is proportioned to the porous Qualities of the Soil, would soon exhaust it of all its Fertility, if it were not recruited with a Manure capable of supplying it with a new Substance, and a fresh Flow of Juices.

Strong Soils require much Cultivation, and are satisfied with a light Manure ; but Lands, that are thin, demand a strong Manure, and a light Culture.

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As strong Soils are naturally compact, and have not many Vacuities between their constituent Parts; and as their Surface is frequently harden'd like an Incrustation; their Earth continues in a State of Chillness, Intractability, and Inaction, and they remain unsusceptible of the Sun's Influence, and the Impression of the Atmosphere, till they have been meliorated, by Husbandry, to a considerable Depth, and are entirely reduced to a fine Powder, whose Parts are easily separated.

Lean Soils, on the contrary, being all incompact, and without a sufficiency of Depth, their Sterility would be increased, by being open'd too much, and by the Inversion of their lower Earth, to the Surface. It will be most proper therefore, to afford them but a superficial Culture. This Diversity of Soils has occasion'd a Difference in the Ploughs that are appropriated to them.

Chevalier. I thought they had been all form'd by the same Model.

Prior. Let us go and take a near View of that, which appears at the farther End of the Field.—This you see is strong, and arm'd, first with a larger Coulter, which cuts the Earth, and disposes it to sustain a more spacious Opening; secondly, with a large Share, or triangular Iron, with a pointed Extremity, and two flat Sides, for the more commodious Enlargement of the Furrow, and to break up the Soil, as it follows the Track of the Coulter; thirdly, with a large Earth Board, whose Situation being always towards the Furrow that is already traced out, throws off, and inverts on the side of it, the greatest part of the Earth of the new Furrow, which is open'd next. This heavy Plough is reserved for strong and deep Soils, over which it is drawn by four, and sometimes by eight or ten Horses, or as many Oxen. There is another sort of Plough, much lighter and less than this, and which operates sufficiently, with a short and narrow Share. When only two Horses work this Plough, it will throw up a thin Soil as much as is necessary; because the Husbandmen are cautious of opening it to a considerable Depth, lest either the nutritive Moisture should evaporate, or a worse Vein of Earth than that, which is furrow'd, should be raised to the Surface.

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Chevalier. The Quarter where we walk at present is covered with the finest Verdure; but I must desire you, Sir, to inform me, why that distant Spot remains uncultivated.

Prior. Arable Lands are generally ranged into three Divisions, which are almost Equal. One of these is sown, before the Winter-Season, with Wheat and Rye; or else with Meslin, which is a Mixture of both. The second Division must be allow'd a Winter's Fallow, and may be sown in the Spring, with the smaller Grain; as Oats, and Barley; Lupines, Lentiles, and some other kinds, which are call'd *March*, because they are sown in that Month, or rather in *April*. The third Division is suffer'd to lye fallow, but is not altogether inactive, during that seeming Repose; for besides some Branches of Husbandry that afford it a proper Exercise, it is continually receiving fertil Supplies. It acquires a Richness from soft descending Snows; it is moisten'd by genial Dews and Rains; and even the Winds waft prolific Salts and Juices into its Bosom. It treasures up these Gifts for the ensuing Year; and its Inactivity, instead of being a Relaxation from preceding Toils, is a Series of Preparatives, and an Acquisition of Materials for new Productions.

Chevalier. Bread is Part of my daily Diet; and yet I sincerely acknowledge, that I have but a confused Idea of the Methods, by which Corn is raised. Numbers of other Persons, by being confined, from their Infancy, to the Walls of *Paris*, like myself, have only obtain'd a transient View of these Things, and never beheld them in their regular Succession. It would therefore be some Satisfaction to me, to have a right Knowledge of the ordinar Culture and Progress of Corn.

Prior. Let us begin with Tillage. There are three Seasons, wherein this Branch of Husbandry is absolutely necessary for Wheat and Barley. The first is perform'd in Autumn, on those Lands that have produced a Harvest of the *March* Grain. This Operation, instead of opening the Earth to any considerable Depth, only prepares it in a proper manner, and destroys the sprouting Weeds. Some Farmers defer this Tillage to the End of Winter.

The

The second is performed in Spring; and, in some Parts of the Country, at *Midsummer*. The Plough ought to work deep in strong Soils, as it likewise should in the third Tillage, which precedes the Season for sowing. These three Operations are sometimes insufficient, and it will be necessary to break the Land a-new, by causing the Plough to pass transversely over the former Furrows*. But the Husbandmen are cautious of having Recourse to this Expedient, in Lands that are too moist and spongy, where the Furrows ought to be sunk deep, and in a Position as slanting as possible, to facilitate the Discharge of Water.

This Branch of Husbandry, twice perform'd, will suffice for the *March* Grain; the one before Winter, the other in Spring. I shall not dwell on that Part of Tillage, which is practised as soon as the Land has been sown; since it is not so much a Cultivation of the Soil as a Precaution for covering the Seed. This Operation is perform'd on strong Soils, with a Harrow, which is a large Instrument made of heavy Wood, arm'd with Iron Spikes, or little wooden Pegs, in order to scatter the Earth lightly over the Seed, which would have too deep a surface of Ground to pierce through, were it cover'd by the working of the Plough-Share. In light Soils, this Labour is perform'd with a little Plough, that the Earth may more effectually cover the Seed, which would soon be divested of all its requisite Juices and Substance, if only a thin Surface of Soil was drawn over it by the Harrow.

Manure. Manure is altogether as important as Tillage. It is sometimes required for the best Lands, and is always necessary to those that are weak. A good Soil is not dung'd, when we require nothing from it but a small Grain; but even This will not be produced by weak Land, without the Aid of a Manure.

Chevalier. What are the particular Ingredients that give Fertility to Land?

Prior. This Manure, which compleats what the Dews of Heaven had begun, is the most contemptible Substance upon the Face of the Earth; and is chiefly composed of the Litter taken from Stables, and Sheep-folds. Dove-Houses,

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Hen-coops, and the Dwellings of all domestic Animals, furnish Manures that differ in their Degrees of Heat; and which being blended together, as well as quenched and corrected by each other, replenish the Land with all the Fertility it had lost.

We may add to this Intermixture all Sorts of Straw, Stubble, Shells of Pulse, uselefs Leaves, and the Refuse of Garden Herbage. Rotten Wood has ever more Substance and prolific Salts, than any of the other Manures I have mentioned. Prudent Farmers throw together, either in one or several Heaps, Chimney and Oven-Soot, together with Rags, the Hair of Animals, Cuttings of Leather, Skins of Beasts, Bark of Trees, Lees of Wine, Sediments of Oil, Malt-Dust, Tanners Bark, and Dyers Lees. They likewise wash the Whole with Soap-Suds, which are commonly thrown out of the Laundry as uselefs; though Soap is impregnated with Oil Salts, which are the principal Elements of Plants.

No Kind of Manure has more prolific Qualities than the Soil which is swept from populous Cities, and especially those where a great Number of Kitchens, and Dyers of Wool, are continually discharging into the Streets a fat and oily Sediment, which is very beneficial to Corn.

The Husbandmen, in some Countries, save the expensive Carriage of Dung, by imparking Sheep, and sometimes Cows, on the Land intended to be manured.

Chevalier. I have seen several Parks of this Nature. They are square Inclosures*, made of Osier-Twigs, in which the Sheep are shut up during Night. But how is it possible for them to continue exposed, in such a Manner, to the Injuries of the Air?

Prior. The Nights are mild and supportable, from the End of June to November; and Parks may be used, with-

* These Inclosures are formed of Osier-Hurdles, ten Feet in Length, and six in Height, and are supported by Stays laid cross the Tops, and slanting towards the Earth. Four of these Hurdles will inclose fifteen Sheep. On each Side another Hurdle is disposed only in Length, in order to contain as many Fifteens of Sheep. But if a Hundred of these Cattle are inclosed in a long Square, which has only one Hurdle for its Breadth, another Hundred may be introduced by the Addition of one Hurdle in Breadth, by which Means the Inclosure will be immediately doubled.

out the least detriment during that Period. The Wool of the Sheep is likewise soften'd, and brought to Perfection, by its being alternately expos'd to Dews and Sun-shine. It is always customary to form two Parks or Inclosures, contiguous to each other; one of which is full, and the other continues empty, because the Sheep are removed out of one into the other, at three in the Morning, that a successive Warmth may be imparted to all the Land. The two Parks are afterwards transferr'd to a new Situation, in order to perform the same Functions the next Night; and with these the Shepherd likewise removes his little rolling Hut, where he shuts himself up in the Evening, with his faithful Dog, that he may be prepared to guard his Flock from Wolves and Robbers.

Chevalier. The Peasants, in some Parts, burn the Turf that covers their Land; and I could be glad to know what Advantage they derive from a Practice that covers all the Country with a hideous Gloom of Smoak.

Prior. Your Curiosity, Sir, shall be satisfied. Besides the Manures I have already mention'd, there is another, which is exceedingly esteem'd, and qualified to supply the Place of all the rest, especially on fat Lands, if a sufficient Quantity of it can be obtain'd. The Manure, of which I am speaking, is Ashes, and particularly those of Wood, or any other Matter that has a due Substance, and is impregnated with nutritimental Particles. Soap-Ashes* are found, by Experience, to be very useful. The Ashes of all sorts of Herbage and Brambles are the only Resource of the Inhabitants of *Ardennes*, and several other Countries; where the Growths of Moss, Fern, and Heath, denote a natural Sterility of Soil. Those poor People peel their Lands; or, in other Words, pare off the Turf, with whatever adheres to it; after which, they form into little Heaps, leaving a Vacancy in the lower Part, and then set it on Fire. When it has been thorough consumed, they scatter the Ashes over the Land, which is qualified by this Expedient for producing a fine Crop of Rye. They sometimes perform the same Operation in their Forests, where, as soon as the Timber has been fell'd, and the saleable Wood carried off, they burn the lesser Branches, with the Chips and Leaves,

* *Mortimer's Husbandry*, Vol. I.

in conjunction with Thorns and Briars. They afterwards break up the Ground with a Pick-Ax, it not being practicable for the Plough to pass amidst the Stumps that remain in the Earth. The Ashes, which they then scatter upon the Land, are always repaid with a rich Harvest.

Some Farmers reserve Ashes, Soot, and all Manures of an easy Carriage, for the most distant Parts of their Land. Others intermix Ashes with Straw, and carefully reserve the whole, either in a Pit lined with Brick or Stone, or, at least, on a clayey Soil, where nothing can be lost. The most judicious Farmers have likewise the Precaution to make an advantageous Use of the Projection of a Roof, when it is capable of sloping over the whole Heap, and preventing the Rain, or any other Flow of Water, from washing away the Oil and Salts which constitute the chief Merit of the Manure. When a Stock of Compost is not properly secured at the bottom, or cover'd with some Shelter, it frequently degenerates into a useless Sediment.

Chevalier. I shall be careful to remember this Observation.

Prior. This Compost is spread over the Land, at the second or third Tillage, but most commonly at the second; that the Salts may be sufficiently dissolved, and blended with the Earth, before they can sustain any Dissipation.

Chevalier. It is very surprising, that our Food should be procured by the Instrumentality of such vile and nauseous Materials.

Prior. Say rather, my dear *Chevalier*, that it proves a very happy Circumstance, and is justly entitled to our Admiration; since those Things that are most offensive to us, are suddenly changed into the Accommodations we chiefly need.

Chevalier. I enter into your Thought, Sir, with Pleasure, and am sensible that my Conceptions are always erroneous, when I indulge any complaining Expostulations against the Works of God. This Mass of Impurities would be daily accumulated all around us, and would render our Habitations pernicious and insupportable, if we had not an Opportunity of disposing it in a proper Place.

Prior. There is something more still; for we not only can discharge it on our Lands, but are agreeably compell'd, by their need of it, to free ourselves from this offensive

Mass.

Maſs. Let us remove it then to a ſufficient Diſtance; let us even baniſh it from our Thoughts, and be only attentive to the lovely Verdure, into which it has been ſo happily converted, in order to be render'd the Source of Riches and Delight. Gardeners are as incapable of transforming Subſtance, and changing Straw into Gold, as Philoſophers themſelves. A Hand more potent than their own enriches them, by educating, from this vile Refuſe, the melting Melon, the vinous Peach with its ſplendid Hue, the juicy Fig, the perfumed Pear, and the foodful Corn; whoſe Taſte, though it be ſimple, is always attractive, and is counted preferable to the moſt delicately poyant and exalted Flavours.

Chevalier. This Transformation is daily accompliſh'd in our View, tho' the Manner of it be imperceptible.

Prior. Hitherto we have only mentioned ſuch Manures as impart a tranſient Fertility; but there are others, which, in ſome Measure, change the Nature of the Soil itſelf, or render it prolific for twenty or thirty Years at leaſt.

The firſt Manure proper for effecting theſe laſting Changes is Marl, which is a Species of white Clay that is friable, notwithſtanding its Fatneſs. This is found in Beds of different Degrees in Depth; and when it has been ſpread over our Land, it diſſolves, and, by its Incorporation with the Earth, contributes to its Fertility. It warms and animates the coldeſt as well as the ſtrongeſt Soils; but its real Function is to meliorate thin Land, which it impregnates with Salts, and prevents its immoderate Evaporation, by condensing its Parts.

This precious Manure was known to the *Greeks*, and *Romans*, and likewise to our Anceſtors the *Gauls* *. We may, perhaps, have ſome Difficulty to procure a ſufficient Quantity of white Marl; ſince it is not very common; but ſeveral Naturaliſts are of Opinion, that Beds of Potters Clay, and other compact Subſtances, which are almoſt univerſally under our Feet at unequal Depths, would produce the ſame Effect. They even aſſure us, that they have made frequent Experiments of its Efficacy in ſeveral Places, and generally with equal Succeſs †. It is very cuſtomary, in

* Plin. Hiſt. Nat. l. 17. c. 7.

† Philoſophical Tranſactions, abridged, Vol. II. p. 731. *Mortimer's* Huſbandry, Vol. I.

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England, to use white Clay, on thin Lands, some of which, when they have been intermixed with the first Clay that could be found in the Neighbourhood, were productive of fine Wheat, for the space of forty-eight Years.

The same Benefits that are derivable from Marl, and perhaps from good white Clay, may be imparted by Sand and Gravel to those Soils that are strong and moist, and whose Parts are not easily separated. These prolific Qualities reside more peculiarly in a Species of dry Earth, that is most commonly found near Mines of Iron.

Those Persons who are able to bear the Expence of a Lime-Kiln near their Farms, and can easily be furnished with such Stones as are proper to be calcined, or dissolved by Fire, may strengthen the lightest Lands, and subdue the hardest into Pliancy.

Those Shells which are sometimes found in Beds, or large Heaps under the Earth, or about its Surface; the Shells likewise of Oysters and Muscles; Sea Sand, and Sedge, which is a kind of Herb that grows on the Shores——

Chevalier. I know it very well, and have seen Paniers of Oysters cover'd with it.

Prior. All Parcels of Matter whatever, that are capable of producing large Quantities of Salts, will communicate Fertility, when they are properly disposed upon Lands.

It will frequently be sufficient to form an Intermixture of natural Earth, and to dig a Pit to the Depth of a few Feet, and in the Corner of a Field, for the working up of this Composition. We daily meet with Instances of Economy in Husbandry, by which marshy Soils that were entirely useless, and even unsalutary and pernicious, are converted into excellent Soils, by being supplied with Gravel, at a Time when the Horses are unemployed in any other Work.

The Invention of fertilizing Lands, by an Intermixture of the Surface, not only with white Clay, but likewise with the first common Earth that occurs in digging, is far from being any Novelty; since it was practised in *Pliny's* Time, by the Inhabitants of the Countries adjacent to *Cologne and Bonne*.

You may judge, my dear *Chevalier*, by all the Species of Manures, which are every where to be found either on the Surface, or in the Bowels of the Earth; what a Number
of

of Expedients are offered, by Providence, to Man, for the Supply of his Necessities, and to correct the Infertility of his Land. His Domain is not limited to the Surface of a Soil, but he is made conscious, that the Deity has been pleased to constitute him the Master and Monarch of the Earth, by leaving to his Industry the honourable Care of its Improvement and Melioration.

Let these Preparatives to Husbandry be our Subject for this Day. We will take another Opportunity to deposite the Corn in the Earth, and shall then endeavour to pursue it through all its Progress, till we have at last converted it into Bread.

Chevalier. If we are Masters of so many Expedients for the Improvement of Land, all Complaints of the bad Qualities of the Soil we possess are very unjust, since they may be rectified by a little Labour.

Prior. I can inform you of a very singular Event, of which I myself was a Spectator for some Years.

The whole Patrimony of a certain Peasant consisted of two little Spots of Ground, which would hardly produce a small Crop of Oats, or *Turkey* Wheat. The poor Man was desirous of raising a Growth of Corn, but as he was not provided either with Cattle or Manure, he opened a Pit, in a Corner of one of his Pieces of Land, and dug out a black Sand, which he scattered over the Surface of his Ground. He afterwards manured the other Piece, which lay adjacent to the high Road, with the very Earth that he had heap'd up along the Extent of that Road. He then repeated this Mixture from Year to Year, and at last acquired the finest Crop of Corn in all those Parts. He enjoy'd the Benefits of this industrious Improvement, for the space of forty Years, though not without the Envy of his Neighbours, who were so ridiculous as to charge him with magical Practices.

Chevalier. This little Piece of History very much resembles that of *Furius Crespius*, which the Count lately gave me an Opportunity of reading in *Pliny the Naturalist* *.

Prior. I may possibly have read it too, though I don't recollect it at present.

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Chevalier. This *Cresinus* had received his Freedom, and he afterwards purchased a Piece of Ground, from which he acquired, by indefatigable Labour, much finer Harvests than any of his Neighbours, who had the largest Tracts of Land. These all beheld him with jealous Eyes, and accused him with having Recourse to Incantations, in order to improve his own Land by impoverishing theirs. The *Ædile* summoned him to appear before the People of Rome, and he accordingly paid his Attendance, with his Daughter, who was a hale Country Girl, in a decent Habit. He likewise produced, before his Judges, all the Equipage of his Husbandry; the Implements were in good Condition, the Mattocks were very weighty; the Size of the Plough was very enormous; and his Oxen were all fat. *These*, said he, O Romans, are the magical Instruments I employ; there are indeed some others, which I am incapable of Producing; I mean the Sweats of my Brow, and my Labours by Day and Night. This natural Eloquence gained all the Votes in his Favour, and he was acquitted by the unanimous Voice of the Assembly.

C O R N,

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D I A L O G U E X I I.

The PRIOR. *The* CHEVALIER.

Chevalier. **T**H E Land is already prepared, and requires nothing now but the Seed.

Prior. The Seed should be well chosen and steep'd in a lixivious Liquor, previous to its Plantation. The right Choice of it consists in selecting such as have a promising Aspect, and have been carefully winnow'd, and purified from Tares, and other improper Grain. It will be prudent, at particular Times at least, to procure the Seed from a Soil, some Leagues distant from that, in which we intend to sow it; for Corn will be apt to degenerate, by being always planted in the same Earth, where it exhausts the Juices that are agreeable to it; whereas it finds a new supply in Land where it has never been set.

Chevalier. The most perfect Corn is undoubtedly chosen.

Prior. The Seed, though it be finely plump, and free from all Impurities, should, however, be the Produce of a Soil,

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Soil, inferior in some Degrees of Heat and Fertility to your own. The Transition from an indifferent State to a better is easy; but when an excellent Nourishment is changed for one that is less perfect, the Nature of the Seed is injured by that Proceeding, and its thriving State will be in Danger of declining.

Chevalier. What are the Ingredients, Sir, of that Lixivium, through which, you say, the Seed must pass, before its Plantation?

Prior. Seeds are properly prepared, by passing them through a Lixivium of Their Preparation, quick Lime, or by steeping them five or six Hours in a Brine made for that Purpose. It is usual to pour into a large Basket a hundred and twenty Pounds Weight of Corn, which is a Quantity sufficient for sowing an Acre of Land. The Basket and Seed may be then plunged for some Hours in a Vessel, which, on that Occasion, must contain twenty Pounds of Lime, and about nine or ten Pails of Water. The Corn should afterwards be dried in the Sun, or it may be shook about in a Vessel, wherein three Pounds of Saltpetre, or half that Quantity of Alum, or only two Ounces of Verdigreese, have been dissolved in Water. Some Persons use Vitriol, and others common Salt.

The Brine is sometimes composed of Salts extracted from the Ashes of all Sorts of Plants; but some People think it a better Method to drench the Seed in the Lees of Wine, or the Dregs of Olives. There are Husbandmen, who only mix their Corn with bruised Lime, and sow both the one and the other; leaving to the Air and Rain the Care of dispersing the Salts and Spirits of this Intermixture under the Furrows.

Chevalier. These Methods are not new, but were approved even in *Virgil's* Time*; for that great Poet declares,

*I've seen the Seed oft temper'd for the Soil,
With poyant Nitre, or the Lees of Oil.*

* *Semina vidi equidem multos medicare ferentes,
Et nitro prius, aut nigra perfundere amurca.*

Georg. I.

Prior. Their Efficacy has always been confirmed by Experience. This Brine fortifies the Corn against several Distempers, to which it is obnoxious. The brackky Flavour it diffuses, disgusts and chases away the Worms, and Moles, and Field-Mice, that would otherwise devour the Corn in the Earth. Experience has likewise made it evident, that all lixivated Seeds are improved in their Fertility, and render'd more successful. There are some Husbandmen, who are so fully persuaded of the good Effects of their preparatory Composition, that instead of a hundred and twenty Pounds of Corn, they only employ two thirds, or even but half that Quantity; and mix, for each Acre, sixty or seventy Pounds of Corn, with chopped Straw, that the Hand of the Sower may be filled as usual.

A single Grain, in Consequence of such a Preparation, has been frequently known to shoot up seven or eight Stems, each of which has supported an Ear, which contained more than fifty Grains. The Number of Stems produced by one Seed is sometimes prodigious, and they have amounted to more than thirty*.

Chevalier. I have heard you say, Sir, that there is but one Bud in each Seed.

Prior. The Number of Stems produced from one Grain of Corn, is a Fact too well attested, to admit of any Doubt. This Fact therefore, and a Variety of others, make it evident that I entertained a wrong Opinion; and that instead of only one Bud in each Grain, there is really a Pacquet of them; the most exterior of which shoots out first, and destroys all the rest, by engrossing the Nourishment from them, unless the adjacent Earth be impregnated with a sufficient Supply of vegetable Principles for their Support. This Profusion of Buds, which are unfolded in Proportion to the Quantity of Salts, and other nutrimental Aids acquired by them in the Earth, may be considered as an Invitation to us to be inquisitive after the best Expedients for their Improvement.

Chevalier. We have an ample Supply of all the different Species of Salts; and 'tis possible that we may hereafter be able to furnish the Earth at a small Expence, with that particular Species and just Proportion of Salt as will be

* Malpighi Anatom. Plant.

sufficient to promote its Fertility for many Years, and without the least Intermission.

Prior. Its Produce would then be increased to a third, or perhaps one half more than it now affords.

Chevalier. We must, however, pursue the old Methods, till these new Discoveries are obtained; and I shall now be glad to know the proper Time for Sowing.

Prior. The Species of Corn that are sown before the Winter-Season, are the autumnal Corn, Wheat, Barley, and Rye. I suppose, Sir, you are not unacquainted with the Nature of Wheat in general; but there are some Species of it that are not very common; as the red and white Pollard Wheat; the former of which is sown in Spring, and the latter is sown in *Dauphiné* and *Flanders*; *Touzelles*, which is common in *Languedoc*; and *Spelt*, which the *Germans* use more than ourselves.

Rye is the Food of the poor People, and thrives in the worst Soils, and the driest Years. Rye. Its refreshing Qualities are frequently an Inducement to several Persons to intermix a small Quantity of it with Wheat, which it renders more tender and agreeable, and adds to it a pleasing Freshness. The dry and degenerate Kind of Rye, which is called Horned or Spur-Corn, is only fit to be thrown away; and it occasions fatal Distempers in those Countries where it is used by the Inhabitants.

Starch-Corn, or Autumnal Barley, is sown before the Winter-Season. The Spike of this Starch Corn. Grain has four Sides, whereas the common Barley has only two. It is cut in the Month of *June*, and proves very serviceable to poor People, till the Harvest supplies them with their Winter Provision. It may be cut while it continues green, and it shoots up two or three times. Horses are equally fond of the Straw and the Grain.

The small Grains, which are sown in *March*, are Oats, and Barley; Lentils, and little round Beans.

The Oat-Harvest is an important Article in Oats. Commerce, because this Grain is the principal Food of Horses. It is likewise made into a salutary Gruel, when it has been cleared from its Husk.

Chevalier. What can be the Use of that large wooden Roller, which is drawn by a Horse over a Field of Oats that are newly shot up?

Prior. It compresses too lax a Soil close to the Roots, and, by rendering the Surface a little compact, prevents all immoderate Evaporation, during the first Heats.

Barley, though it be not altogether so useful as Rye, is the Nourishment of a Multitude of Animals. The *Spaniards* feed their Horses with it, instead of Oats; and it makes fine Bread, tho' the Taste of it is not very agreeable to those who have not been habituated to it. This Grain is likewise the principal Ingredient of Beer, and it furnishes us with Pissanes, Gruels, and refreshing Creams.

Chevalier. That agreeable Water, which we call *Orgeat*, is undoubtedly made with this Grain.

Prior. A Paste, composed of Barley-Meal, may be one of its Ingredients, if you please; but it is generally made with Melon Seeds, mix'd with Sugar, and some scented Water.

Lentils, little round Beans, Lupines or wild Pease, and several other Species of small Grain, are either sown apart, or intermixed at Pleasure. Their Straw affords a good Food for Beasts of Burden, Cows, and Sheep; and the Grain itself is given to Horses, Swine, and Fowls. Lentils, which are so much disregarded in the Country, are in great Esteem at *Paris*, and contribute, at least, to the Regularity of the Courses brought to our Tables.

Black or *Saracen* Corn, which, according to the common Tradition, was imported on our Coast by the *Saracens* when they came to insult us, towards the Expiration of the first Race of our Kings, is a small sable Grain of a triangular Form. It proves an agreeable Food to Fowls, and particularly to Pheasants, and its Flowers afford the Bees a delicious Regale.

Millet. Millet is the smallest Species of Corn, and among other Uses to which it is appropriated, it supplies *Canary* Birds and *Ortolans* with their most delightful Nourishment.

Panic. Panic, or bearded Corn, which ought not to be confounded with the bearded Corn, which is made into excellent Bread, is a Species of large Millet, whose Stem rises to the Height of eight or nine Feet. Rice,

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Mays or Turkey Corn half $\frac{1}{2}$ size of its natural bulk.

J. Mynde sc.

Rice, which is but little cultivated in *France*, delights in Shade, and in Lands that are rather moist than fat. It might in some measure, be advantageous to sow this Grain in our marshy Lands, which are so useless at present. Rice is a very nourishing Diet, and much used in Soops. It is the usual Food of the *Eastern* People, and the *Chinese* brew it into a Drink, which serves them instead of Wine.

Mayz, or *Turky* Corn, is a large Grain, almost round, something angular, and about the Size of a commod Pea. One Species of it is yellow, another red, and a third sort is colour'd like Marble. The Complexion of its Skin is extremely varied, it affords a very white, and sometimes a yellowish Meal, and its Taste is rendered agreeable by Use. It proves a good Ingredient in Ragoûts, and may be made into Bread and Cakes. 'Tis customary likewise to boil it; and this is the Manner, in which the People of *Asia* and *America* prepare it for their Tables. This Corn acquires a very large Growth, and may be employed instead of the generality of lesser Grains, usually given to Animals. It shoots out four, five, and sometimes six Stems, like Reeds; these rise about seven Feet high, and contain a rich Pith or Syrup, from which a real Sugar may be extracted. Each Stem supports two or more Spikes, four or five Fingers in height, and which are enfolded in several large Skins, almost as strong as Parchment; by means of which, the Grains are preserved from all Humidity, and the Depredations of Birds. Every Spike is composed of eight Sides, or Ranges, each of which contains thirty Grains; the whole eight yield two hundred and forty; the Product therefore of one Stem generally exceeds seven hundred; and if we reckon no more than three Stems, the Grains they produce will amount to above two thousand; and all these spring from the single Grain that was planted in the Earth.

This prodigious Fecundity, in Conjunction with the beneficial Qualities of the Grain, has already induced the Husbandmen to plant it in several of our *Southern* Provinces; and they have derived great Advantages from their Labours, especially with respect to their Poultry. The Harvest of this Corn is not only much more abundant, but likewise more certain than any other; and its Goodness is more

unimpaired by the Generality of those Distempers that prove destructive to other Grain. You see, Sir, there are some Countries, where Experiments are made without any Detriment; but this happens not to be our Method. We begin with condemning every Practice that is not established among us, and are generally so modest, as to imagine our Conduct to be the Model of what is proper to be done.

These, my dear *Chevalier*, are the different Species of nutrimental Grain; but there are other Seeds which are planted to great Advantage in several of our Lands.

These are, first, the oily Seeds, which are sown towards Spring. The chief of these are Oily Seeds. Cole Seed, which produces a Species of Cabbage; Rape Seed, which must not be confounded with the Seed of Turnips; Sefamum and Poppey Seed. Those are all productive of Oil for Lamps, and likewise for the dressing of Wool. The Oil extracted from Camomile, and several other Plants, is used in medicinal Preparations; and the Poppey Oil is eaten in several Provinces.

Chevalier. Is there not Reason to be apprehensive of its proving as soporiferous as Opium, which is likewise extracted from Poppies?

Prior. I don't believe it comparable to the Oil of *Provence*, but it is daily eaten without any prejudicial Effect. The Opium, which flows from an Incision made in the Head of a Poppey almost ripe, is entirely different from the Oil, which is drawn from the Seed.

After this Account of the oily Seeds, it will be proper to take Notice of the various Classes of Plants that are sown in open Lands; as Saffron, Sennie, Hops, Hemp, Woad, Tobacco, and several others.

Saffron, which is the best Revenue of some Provinces, and particularly of Part of *Gatinois*, where it grows in Perfection, is a Plant that rises from a bulbous Root. At the End of two Years, it will blossom in the Months of *September* and *October*. The Flowers are beautiful, and bear a Pointal, which rises from their Bottom, and is divided into three Branches, which are called Darts. These are the only Parts of the Flower that are used, as being what is properly called the Saffron. It

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is employed by Dyers, and our Cooks sometimes use it, to colour their Ragoût with a light Red. In a Word, it is exceedingly esteemed by the *Northern* People.

Senvie is a very small Grain, yielding a yellow Senvie.
Farina, which, with an Intermixture of Vinegar,
or new Wine, to correct its Poinancy, is what we call
Mustard.

Hops, which are propagated from Seed, Sets,
and Roots, produce a Flower that gives Strength Hops.
to Beer, and chiefly contributes to its Agreeable-
ness. They accomplish their Growth, by twining round
long Poles, in cultivated Lands, which are distinguished by
the Name of Hop-Grounds. The Use which is made of
Hops in the Liquor drank in cold Countries, and the Man-
ner of raising them on Props, has given the Plant the Ap-
pellation of the *Northern* Vine.

I shall not acquaint you with any Particulars relating to
Hemp and Flax, since they have been the Subject of a
former Conversation *.

Woad, Madder, and Weld, are sown in several
of our Provinces, for the Use of Dyers. Woad, Woad.
which is likewise called Wade, is properly a PASTE,
made with the powder'd Leaves of a Plant that is sown in
strong Soils, and a hot Climate, like *Languedoc*, where it
is much cultivated. The Leaves of this Plant are first
bruised, and then steep'd in Water for several successive
Months. The Sediment, which sinks to the Bottom, is
work'd into a PASTE, and then sent to the Dyers.

The little Woad of *Normandy* only differs from the
other, as it is a lesser Plant, and is likewise prepared with
some Variation from the other Method. This PASTE, which
affords a blue Dye, is the Basis of most other Tinctures.
Indigo, which produces a more perfect Blue, is not a PASTE
of pulverized Leaves; but the Juice or Sediment of a
Plant, which has been immersed for some Time in Water.
The Plant itself is cultivated both in the *East* and *West*
Indies.

The Roots of Weld furnish a red Dye. The
Plant flourishes in light and moist Soils, and in Weld.
Marshes that have been drained. We may

* Vol. I, Dialogue 15.

form a Judgment of its Nature, by its successful Growth in the Island of *Zeeland*, from whence we are furnished with the finest Species.

Madder. Madder is another Plant, which is easily cultivated in light Soils; it affords a yellow Tincture, and is likewise an Ingredient in green and other Dyes.

Fuller's Thistle. The last Class of Seeds sown in arable Lands is that of Tefil, or Fuller's Thistle. The shaggy Heads of this Plant are useful in raising the Nap on Woollen Cloth, and rendering it impenetrable to the Air, by Means of the delicate Down, with which they cover all the Surface of that Manufacture. This Plant prospers best in a light Soil.

Chevalier. I have seen Tobacco, which is so much used, thrive to Perfection in very bad Land; and it ought to be consigned to those Provinces where the Soil is unfertile, and which the Cultivation of this Plant would certainly enrich.

Prior. There are Varieties of other useful Seeds, whose Nature corresponds with the Quality of such Land as you have mentioned, as you may judge by the Detail I have given you of the several Species. All Sorts of Soil are capable of Melioration, and the Facility in chusing proper Seed for that Effect has occasioned those prudent Regulations, which have limited the Culture of Tobacco to our Foreign Settlements; since it is often the only Plant, which can be raised there with any considerable Advantage.

Chevalier. Will you be so good, Sir, as to inform me when the Use of Tobacco was originally introduced among us? I have been told that it has not been very long in Vogue.

An historical Account of Tobacco. *Prior*. In the Year 1560, Monsieur *Nicot*, who resided in *Portugal*, in the Quality of Ambassador from the Court of *France*, sow'd Part of his Garden with the Seeds of this Plant, which he had received of some curious Persons, who brought them from a Part of *Mexico* called *Tobacco*; and where the Natives distinguished the Plant by the Name of *Petun*. The extraordinary Success which attended the Application of its Leaves to some particular Ulcers, gave it the Reputation of an excellent Vulnerary. Monsieur *Nicot* sent

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sent this Plant to Queen Catherine of Medicis, and from these Circumstances it acquired the several successive Names of *Queen's Herb*, *Nicotiana*, *Petun*, and *Tobacco*; the last of which Names it has imparted to one of the little *Antilles*, where it succeeds better than in any other Country. Its different Uses are now universally known; it resembles our Henbane of *Canada* in its principal Operation, which consists in stimulating the Nerves, and affecting them with a kind of convulsive Motion.

Chevalier. Can this Motion which seems to be an Irregularity forced upon Nature, be productive of any good Effect?

Prior. It undoubtedly is qualified to free us from any redundant Humour; and it then becomes a salutary Remedy. But is there any Reason to suppose that Health can only be secured by a constant Recourse to this Remedy; or can we imagine we derive any real Relief, from being every Moment affected with Convulsions?

Let us, however, resume our Subject. Of The Manner all the different Seed we have mentioned, of Sowing. some are planted single, others in Pairs, and in Holes equally distant from one another. A third sort is sown, either with a single or a double Cast; and this latter Method is used with Corn. When the Husbandman has broken his Land into small Parts, either for Wheat or Rye, which are sown in the Months of *September* and *October*; or for the *March* Grains, which are set in that Month, and likewise in *April*; instead of being so superstitious as to wait for any certain Period of the Moon, which would cause him to lose the fine Days that are presented to him, he fastens his long Bag before him, into which he pours a Measure of the Grain, and winds the Extremity of the Bag round his left Arm, that he may have it at his full Command. He then fills his other Hand, advances in a direct Line, and scatters the Seeds with a circular Cast, by carrying his Hand to his left Shoulder. He afterwards fills his Hand a second Time, and directs its Motion by that of his right Foot. In this manner does he proceed, and with a Movement, whose Justness and Regularity are very pleasing to the Eye of a Spectator.

Chevalier. Is Pleasure then consulted in this particular Motion?

Prior. By no means, Sir; and the Exactness with which he performs it, is only calculated for the equal Distribution of the Seed. When he has filled one Space of Ground, he turns off into a new Line whose Distance from the other is adjusted by the Extent of the Cast. The Corn begins to vegetate, when it has been four and twenty Hours in the Earth.

When the Article of sowing is compleated, the Husbandman begins to enjoy some Respite from his Labour; and one of his greatest Satisfactions at that time is to walk over his Ground, and see a Field, that was dry and naked a few Days ago, entirely covered with a beautiful Verdure. His Heart then exults with Joy, at these favourable Omens of a fertil Harvest.

Chevalier. Let us attend him in his Walk, and share his Contemplation on the Progress made by the Grain, from the Moment it is first unfolded, till the Season when its Fruit appears.

Prior. This amiable Operation of Nature begins to be withdrawn from our View, and the Season, when by opening the Earth I could have shewn you the Seed newly shot forth, is unhappily elapsed. I, however, have found out an Expedient for procuring you a Sight of this Process, without any Difficulty. I have caused several Grains of Corn, and Seeds of all Kinds, to shoot forth in the open Air, without any Assistance from the Earth; and will now acquaint you with the Method for obtaining this Effect. You are to lay the Seed on a light Spread of Wool, which must be supported by a leaden Plate pierced through with several Holes, which ought to be something large. When this Plate is placed over a great Vessel, always fill'd with clear Water, and which ought frequently to be renewed, it will draw up a Moisture into the Wool, which performs the Functions of Earth to the Seeds. These will begin to shoot in a few Days, and their Roots will be gradually extended to the Water; and though they will then acquire fewer Juices than they would imbibe from the Earth, they will, however, be successful in their Vegetation; especially if the Water be changed, and likewise intermixed with a small Quantity of Salt. I have compared the Circumstances, which attend the Seeds in the Wool, with those that occur

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to them in the Earth, and find the Process to be much the same.

When a Seed has been in the Ground about two Days, the Juices, which swell it, are communicated to the Bud, and cause it to shoot. This Bud is always lodged in one of the extreme Parts of the Seed; and that Portion of it, which lies near the Surface, is the little Root of the future Plant. That Part of the Bud, which is next to the inward Substance of the Seed, is the Stem and Head of the Plant. The generality of Seeds are composed of two Pieces, called Lobes, and which are, at first, united by a common Foldage, whose Texture is more or less substantial. When the Seed is swell'd by the Juices of the Earth, the Lobes burst their Covering, in consequence of which, they are separated from each other; and they then furnish the young Plant with the fine milky Nourishment, with which they are impregnated. They are likewise strengthen'd by the Process of Vegetation; they shoot out of the Earth, in order to perform the Office of seminal Leaves to the Plant, and wither away, when it has exhausted them of their nutritional Fluid, and no longer needs their Assistance. You will observe every Particular of this Progress, in several Species of Beans, as also in Pease, and the Seeds of Citruls, and Melons; and I think the Instances I have now offer'd are sufficient.

There are other Seeds, whose Foldage is not separated into two parts, in order to furnish the two first Leaves; and tho' it supplies the tender Plant with its original Nourishment, it continues in the Earth, where it shrinks into Wrinkles, and withers in proportion to the Strength the Plant acquires, by extracting more substantial Juices from the Soil. You will experience this Process in Wheat and Millet, which I have carefully traced in their different Accessions of Growth.

When a Grain of Corn has been deposited in the Earth for the space of twenty-four Hours, the Bud usually begins to disengage itself from the Substance of the Grain, and shoots out its Root and Stem. The Root is at first wrapt up in a kind of Purse, through which it forces its way. Two other Roots spring forth, in a lateral Direction, within a few Days, and burst through the Texture that cover'd them. Each of the

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three Roots is shagged with a number of Fibres, which closely twine about the saline Particles of Earth that are presented to them in their Progress, and extract from them whatever is capable of nourishing the young Plant, in conjunction with the Fluids it still derives from the inward Substance of the Seed, to whose Bottom the Plant extends several small Filaments.

The Stem. The Stem shoots upwards, in as direct a Line as it possibly can form, while the terrestrial Juices habituate the Root to descend, by insinuating themselves into its Pores. The same Juices are likewise instrumental in raising the Stem, while the Air, by flowing into its Pores, promotes the Continuance of that Direction. The Body of the Plant ascends insensibly through a little Tegument that preserves it. These sorts of Teguments are very common in Plants; they likewise encompass the generality of Flowers; and we may observe them folded round the Buds of Leaves, in Trees. They are sometimes lengthen'd, like a second growth of seminal Leaves, as is very evident in the expanding Gems of the Chestnut-Tree; but they soon wither, when no Danger attends the Plant that was consign'd to their Care.

The Leaves. The Corn will begin to shoot a little verdant Point out of the Earth, about the sixth Day after its Plantation. This feeble Stem is only a Pacquet of Leaves folded over one another around the Spike, which still continues invisible, and is lodged in the Heart. The first Leaf of this Pacquet opens a little towards the Point, but its lower Part is always roll'd up in the hard Covering, from whence it springs. Some Days after this Process, the Foldage of the Seed, though it has still some Remains of a milky Fluid, begins to shrink, and fall into Wrinkles.

The Purse, which inclosed the Roots, begins to wither away, and all these transient Pieces soon die and disappear, when they have accomplish'd the Functions for which they were appointed.

If we clear away the Tegument of the Seed, and retrench the Foldage from whence the Roots have shot, as well as that, which emitted the Pacquet of long Leaves; we shall have nothing left but the Pacquet itself, which contains the green Leaves, and the real Stem. These Leaves, when they

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they are unfolded in a proper Manner, will discover the first Rudiments of four Tubes, which compose the Stem, and at whose Extremity the Bud of the Spike will appear. From the first Knot, which is nearest to the Roots, a Leaf springs forth, and performs the Office of a Covering to a second Tube. Another Leaf likewise rises from the second Knot, and wraps itself round the third Tube. The third Knot produces another Leaf, which incloses a fourth Tube, together with the Spike. The Space between the first and second Knot, nearest the Roots, is then much larger than the Interval that separates the second Knot from the third. On the uppermost of these Tubes, which are joined into one another, rises the Spike, which is easily distinguished by the Roundness and Transparency of its little Grains, that resemble so many Pearls.

When the green Leaves of the Corn have acquired so much Thickness, at the Return of Spring, as to make it probable, that the Stem will be impair'd and crush'd down under the Weight of the Spike; the Husbandman introduces a Flock of Sheep * into his Field, to nibble off the Points of the Foliage, which ought to be consumed in a short Time; and this Expedient fortifies the Stem, which is inclosed by those Leaves.

The Growth of Corn now begins to be secured. The Spike rises from the Covering that shelter'd it from the Inclemency of a cold and inconstant Air: The different Lodgments, that are to contain the future Grains, begin to be enlarged; and they shoot out two Kinds of Pistils, to receive the Powder from the Knot of Chives that appear in a higher Situation, and impart Fertility to the Buds. When none of this Powder happens to be discharged, the Buds are unproductive, and the Covering, with its Contents, remains flat and useless.

When the Buds have lengthen'd and dilated that mealy Substance, to which they are united by Branches that may be called the seminal Root, the Foldage, and likewise the first Leaves, which extracted from the Earth and Air such Juices and Spirits as were proportioned to the delicate Texture of the Stem, begin to wither away; and as the Stem

* — Ne gravidis procumbat culmus aristis,
Luxuriam segetum tenera depascit in herba.

Georg. I.

is then strengthen'd, it operates with more Vigour by itself. It divests the Leaves of their nutrimental Juices, which it engrosses to itself, though in reality they are only to enrich the Spike, which it bears.

Chevalier. When you have fortified the Stem, Sir, as much as you please, it will only have a Breadth of two twelfths of an Inch, to strengthen a Height of four or five Feet, and sometimes more. How is it possible then for so weak a Trunk to support the Spike, with all its Grain? My Life depends on the Preservation of this Plant, and when I consider, that the least Wind lays it low, it creates me some Inquietude.

Prior. I confess you have Reason to be surpris'd, that so precious a Spike should be sustain'd by such a slender and lofty Stem, which is destitute of Shelter and Support, and is planted in the Midst of a vast Field, where all the Winds have, alternately, their full Play. Let us therefore enquire what Reasons can be assigned for so extraordinary a Structure.

Corn ascends more than most Species of Grain, and even to the Height of four or five Feet; that it may arise above a putrifying Humidity, which exhales from the Earth, and whose Effects are very perceptible after the Close of Day, when the nocturnal Cold condenses this moist Vapour, and prevents its Dissipation. Were the Grain lodged at a less Distance from the Earth, the watry Stream would cause it to bud forth with too much Precipitation.

This lofty Stem has only two twelfths of an Inch for its Diameter; but this Proportion is adjusted by the nicest Oeconomy, since a small Field is hereby qualified to contain a great Number of Spikes. But as lank as this Stem appears, it has been form'd by an Art that preserves it, for the Space of five Months, uninjured by the Fluctuations of Air. Four Knots, of a solid Substance, and which resemble strong Bands, fasten it sufficiently, without depriving it of its due Flexibility; and it continues capable of bending, without breaking, under the common Gales of Wind, or even beneath the formidable Force of impetuous and sudden Blasts; since its Knots enable it to recover its former Position, in the returning Calm. It is a pleasing Sight to behold the easy Undulation of this Forest of Spikes, which gently sink

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with each successive Flow of Air, and seem to roll like the Waves of an immense Ocean.

The same wise precaution has been employed in the Formation of the Spike, in which the Grains are ranged one above another, at equal Distances, that the Nourishment may be equally distributed amongst them. They are likewise conceal'd and secured under different Coverings, which are substantial enough to weaken the Force of the Sun-beams, and are so compactly joined together, as to exclude and throw off the Dews and Rain, which would otherwise cause them to shoot forth. Several of these Coverings terminate in as many Points of different Degrees in length, and which, in the Opinion of some Persons, are little Canals appointed for the Introduction of a proper Quantity of Air into each Cell; others think, they form a Pallisade against the Ravages of Birds*. I am very inclinable to believe, that these Points, or Beards of Corn, are intended to break the Force of Rain-Drops; in consequence of which, they are discharged from each side, instead of sinking in, towards the bottom of the Cells of the several Grains, which would be rotted by a continuance of Moisture amongst them.

Nothing is more noxious to the Spike than violent Winds and Mildews, which latter are a small Mildews. viscous Rain, whose Parts, that are most impregnated with Sulphur, adhere in different Quantities, to some particular Stems, where they are glew'd while the Water flows down. The Sun which afterwards heats this gummy and combustible Fluid, renders it so active and penetrating, that it burns the Stem, and converts the Grains into a kind of Cinder, or black Powder, whose Intermixture with the good Corn, is destructive to its Growth.

Chevalier. Is there no Remedy against this Disaster?

Prior. As to Tempests, which are appointed for our Punishment and Probation; neither Force, Industry, nor any other Precaution will avail against them; but the pernicious Effects of Mildews may be prevented by a long Cord, drawn by two Persons successively over all the Spikes in a Field; and by strongly shaking off the small Rain, before it has been inflamed by the Sun.

* *Contra avium minorum morsum muniuntur vallo aristarum. Cic. de Senect.*

The Harveſt.

The Corn at laſt aſſumes its golden Hue; but we are not to have recourſe to the Sickle, till the yellow Complexion of the Harveſt begins to deepen into a red, and the Grain, by unfolding its Covering, invites us to gather it in, and prevent its ſpontaneous Fall. 'Tis then that a number of officious Hands tender us their Services, and are willingly blacken'd in the glowing Sunſhine, in order to cut down and bind our Sheaves. The poor Labourers, by theſe means, ſecure themſelves a ſhare of this beneficial Grain, which was denied them by their deſtitute Circumſtances of Life, and the Infertility of their native Provinces. They paſs from Places where the Harveſt is compleated, to thoſe Parts where it proves more tardy, and cloſe the Scene of their Labours with the *March* Grain. Theſe good People reviſit their beloved Families in Autumn, and no longer dread the Approach of the melancholy Season of Winter. Their Labours have ſupplied them with Bread, and an eaſy Satisfaction of Mind; and they have now acquired a Sufficiency to free themſelves from the Importunities of Tax-men.

Chevalier. The Poor as well as the Rich are now crown'd with Plenty; but as we ought to be capable of preſerving the Gifts of Nature, I muſt intreat you, Sir, to reſreſh my Memory, with the Obſervations you formerly made, in a tranſient manner, on the Methods of ſtoring up Corn for a length of Time.

Methods for
preſerving
Corn.

Prior. Corn is very different from Fruits, with reſpect to the manner of its Preſervation. As theſe latter are only intended for our Reſreſhment, in the Courſe of their Succeſſion for a few Weeks, and, at moſt, can only be preſerved through the enſuing Winter; all their Covering is but a light Robe, which, however, is proportion'd to the Nature of the Season, in which we are allow'd their Enjoyment. Corn, on the other hand, which is to be our Nouriſhment in all Seasons, inſtead of being cloathed with a ſlight and pliant Array, enfolds and ſecures the Meal, that is to be our future Support, in a ſtrong and ſubſtantial Texture, in conſequence of which it continues good for ſeveral Years, and is qualified for Tranſportation to other Lands that need it; to which we may add, that it is hereby render'd capable of being reſerved in

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publick Granaries, for pressing Occasions, and of being kept for several Centuries.

The first Method of preserving Corn is to let it remain in the Spike, which is its natural Mansion, and furnishes us with the only Expedient for conveying it to the Islands and Provinces of *America*, that solicit us for a Supply of this Food. But if we neglect to send it to them in the Ear, as well as in close Casks, it will evaporate its Substance, and be unproductive whenever it happens to be planted. The Inhabitants of those remote Countries sow it in the Ear, for its better Preservation, and raise it to Maturity by that Precaution; but this Method of preserving it would be attended with several Inconveniencies among us. Corn is apt either to rot, or shoot up, when there is the least Intermixture of Humidity in the Heap. It is likewise infested by Legions of Rats, who, amidst the Security they derive from the Solitude of the Granary, consume the Labours of our Hands without the least Molestation; and the Detriment is frequently very great, before it happens to be discover'd. Our want of Straw likewise obliges us to separate the Grain from the Ear, and which is performed by ranging one Sheaf by another, on the Barn-Floor, and strongly threshing them with Flails. The Antients disengaged the Corn from the Ear, by causing an Ox to trample upon the Sheaves, or by drawing a heavy Carriage over them, which produced the same Effect. The *Italians* and *Gascoigns* still employ Wains or Sledges in this Manner. The *Turks* crush the Ears of Corn with broad Planks, planted with Iron Spikes, or sharp Flints; but nothing has yet been found to be more effectual than the Arm of a strong Thresher, who, by rearing aloft the Staff, on which the Flail is hung, discharges a Stroke on the Sheaves, with a Strength proportionable to the Height from which the Flail descends.

The second Method of preserving Corn is to turn and winnow it frequently, when it is out of the Ear, and likewise to remove it, from one Place to another, with a Shovel, or to pour it through a Trough, or Mill-Hopper, wide at the Top, and narrow at the Bottom, into others placed below, and from whence it is again raised by a Crane, or some other Machine, to the upper Floor. When the Corn has been thus moved and aired, every fifteen Days for the first six Months, it will require less Labour for the future,
if

if Care be taken to lodge it in a dry Place. The Air and Motion are sufficient to preserve it, in a moist Season, from Heat and Dust, as likewise from Mites. But if these Insects are permitted to slide into the Heap, and continue there for any Length of Time, they will soon swarm like Ant-Hills, and their Devastations will reduce the Corn to a Heap of Dust. Perpetual War, therefore, must be declared against these Invaders, by moving the Grain a-new, and rubbing the Places adjacent to it with Oils and Herbs, of such a strong Odour, as will be sufficient to chase them away. Garlick and Dwarf-Elder are very effectual on this Occasion. These Animals may likewise be exposed to the open Sun, which immediately kills them; or the Heap of Corn may be consigned to a Brood of Chickens, who will quit the Grain, 'tis reported, to prey upon the Mites, as fast as they appear.

Chevalier. Before we intrust the Corn to their Vigilance, it would be proper to offer them a certain Number of Grains, mixed with some of the Mites, that we may be satisfied whether the Fowls act with Integrity.

Prior. I have known a Farmer depend on their Fidelity; but it would not be amiss to make the Experiment.

When the Corn has been preserved from all Impurities, for the Space of two Years, and has exhaled all its Fire, it may be kept for forty, fifty, or even a hundred Years, by lodging it in Pits, cover'd with strong Planks, closely join'd together; but the safer Method is to cover the Heap with a thin Surface of quick Lime, which should be dissolved, by sprinkling it over with a small Quantity of Water. This Lime causes the Grains to shoot to the Depth of two or three Fingers, and incloses them with an Incrustation, through which neither Air nor Insects can penetrate.

Chevalier. I am surpris'd at the different States, through which Corn passes, as well as at the Dangers, to which it is obnoxious, and the Care it requires from Man, before it can be fit for his Nourishment.

Prior. We have had Recourse to a thousand Expedients, to secure the Enjoyment of this Grain, and to alleviate the Labours it costs us. We employ hard and polish'd Instruments, to facilitate the Toil of rearing it, and consign the most painful Part of the Fatigue to Horses and Oxen. We accelerate the necessary Motions and Dispatch of Husbandry,

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Husbandry, by Wheels and Leavers, and a hundred other Machines, which are useful in gathering, threshing, transporting, grinding, and baking. But as dexterous and inventive as Man has been for the Mitigation of his Labours, and the frugal Management of his Time; Corn, which is the best and most necessary Nourishment, obliges him to submit to a perpetual Round of inevitable Toils. 'Tis here that the Deity has made Necessity prevail over Indolence, more than in any other Instance whatever; and tho' his Providence, alone, encreases what Man endeavours to propagate by Plantation and Culture, he is more desirous to conceal his Gifts and Benedictions, under the Veil of human Labour, than to render us inactive, by supplying us with a constant Flow of Liberalities, which would only cost us the Pains of collecting them together.

VINES.

V I N E S.

D I A L O G U E XIII.

The COUNT. *The COUNTESS.*
The PRIOR. *The CHEVALIER.*

Count. **T**HE Declivity of the Hill begins to be disagreeable, and we shall walk with more Satisfaction on the mossy Turf that borders the Vines; where we may take a View of what the Year is like to afford us.

Chevalier. The Mountains, that continually rise in our Way, are very incommodious; and as the Earth is allotted to us for our Habitation, would it not afford us a more amiable Appearance, were it laid out in one continued Level?

Countess. Let me desire you, Sir, not to entertain any unfavourable Opinion of Mountains and Hills; since they present us with pleasing Views, and surprising Amphitheatres, that enliven our Passage with a Number of fine Varieties. They likewise render our Habitations infinitely more agreeable, and administer Complaints to none but Travellers.

Count. The Extent of our Domain is increased, and almost doub'd by these majestic Elevations.

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Prior. Were we only to enjoy Plains, we should soon be destitute of many Accommodations. The Hand, which formed this Globe of Earth, has diversified its Surface, with a Wisdom that attracts our Admiration and Gratitude, in proportion to our Perceptions of its Beauty. The great Creator did not think it sufficient to afford us an Extent of level Soils, endued with all the Qualities, which are requisite for the Production of the various Species of Grain, that furnish us with our chief Subsistence; but he has likewise raised Hills and Mountains, at proper Intervals of Distance, to supply us with favourable Situations for Vines, and other Plants that require strong Reflections of Light, to compleat the Maturity of their Fruits. Take a View of all that Land, which descends in a slant, in order to receive a direct Emanation of the solar Rays, which would be transmitted in oblique Lines to a Plain. May not these Declivities be consider'd as so many Grand Espaliers, which invite us to embellish them; and where the Vigour of the reflected Beams is united with the Purity of an open Air? This Almighty Hand, therefore, is equally beneficent and masterly in its Operation, and has imparted, as you may observe, a number of Graces and useful Qualities to those Portions of Land, which seem to be irregular, at the first View.

Count. The various Advantages that result from Mountains, furnish us with some of the finest Subjects for Conversation; and we perhaps may take an Opportunity to satisfy the Curiosity of our dear Chevalier on that Article; but, at present, we shall make a sufficient Apology for Mountains, by declaring them to be instrumental in supplying us with Wine.

Chevalier. If they render us such Services as these, they no longer ought to be the Subject of any Complaints. But is the Vine incapable of a Cultivation on a level Soil?

Count. It is seldom very successful there, for, as *Virgil* observes.

*Bacchus, on airy Hills, with Pleasure pours
The rich Profusion of his chosen Stores*.*

* ——— apertos

Bacchus amat colles.

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Prior.

I may add too, that it will not prosper on all sorts of Hills, for which Reason it is usually planted on such as have either an *Eastern* or a *Southern* Aspect, provided the Land be properly temper'd in other respects.

Countess. The Sight of these dry Hills and hanging Lands, which are incapable of being cultivated by the Plough, would incline one to believe they are all unfertile; and yet they are yearly covered with the finest Verdure, and presents us with the most delicious of all Fruits.

Prior. The same Motive to Admiration, which we discover in the lean Soil that nourishes the Vine, is equally evident in the Plant itself, which supplies us with Wine. Who, till the Fact had been experienced, could ever have imagined, that a Growth of despicable Wood, more deform'd and brittle than any other Class of Plants, and the most useless of all, when cut down, should yet be capable of producing so exquisite a Liquor! If we only plant it in a dry and sandy Soil, which discovers all the outward Marks of Sterility; this very Soil, when it has once been diluted with moderate Dews, will unfold a multitude of Clusters, that swell with a delicate and sprightly Juice, for the Accommodation of Man. From whence has the Vine derived a Set of Qualities so superior to its mean Original, and the Dryness of its native Earth? By whom has it been animated with such a Flow of Spirits, and with so much Fire? And by what Precaution, has its Juice been qualified to preserve such extraordinary Vigour and Perfection, for many Years; to remain uninjured at the Shocks of Carriages, and Transportations to distant Lands; and to be converted into a Liquor still more strong and penetrating, and which has received a thousand Variations from Curiosity and Experience?

Wine the Source
of Joy.

Countess. I am not so much surpris'd at the Production and agreeable Flavour of Wine, as I am at its beneficial Effects. Other Liquors, whether natural or artificial, as Beer, Cyder, Tea, Chocolate, and Coffee, create Silence and serious Airs, for the generality, and consign those, who drink them, to a melancholy Cast of Mind. If they sometimes assemble a Company around them, the Conversation either assumes a moralizing Turn of Gloominess, or degenerates into an insipid Flow of Politics, which some-

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times ends in a disobliging Warmth of Argument. But it is the peculiar Privilege of Wine to introduce Vivacity and Joy, wherever it appears. It unfetters the Tongue invigorates the Mind, and prompts the Heart to utter its pleasing Tranquillity in chearful Songs.

Prior. As Wine is the infallible Source of Joy, it may consequently be consider'd as the Soul of all our Feasts. No Entertainment can be agreeable, without the Ministration of this generous Liquor. Wine alone is sufficient to compensate the Want of many exquisite Dainties, but nothing can be substituted, to any Satisfaction, in its Room, and no Varieties have Merit enough to reconcile the Company to its Absence.

Count. We may add to these excellent Qualities, that it diffuses an Air of Serenity through all the Features, by its Dissipation of Sadness, and every Cloud that pensive Musings had drawn over the Mind. It brings inveterate Enemies together, and causes them to revisit each other, with an Air of Openness and Unconstrait. Anger no longer lightens in their Eyes; they grow conscious of a mutual Amiability; and all their Aversion disappears in a reviving Friendship. Wine, by these Means, becomes the persuasive Mediator of the softest Reconciliations, and may justly be considered as one of the most engaging Bands of Society.

Prior. It likewise proves the most effectual Support to Man, in the Course of his fatiguing Employments; either by causing him to enter upon them with Alacrity, or by a sudden Restoration of the Vigour he had exhausted in their Accomplishment. The Deity, amidst the rigid Labours, to which he has made it absolutely necessary for Man to submit, was unwilling to overwhelm him with their Weight, or to leave him destitute amidst the Gloom of his melancholy Thoughts. While his Providence disposes the Earth to furnish the industrious Husbandman with such Bread as is qualified to nourish and strengthen him, it likewise prepares for him a Liquor which gladdens his Heart, and reconciles him to all his Toils. Take a View of that poor Man, who bends under the Burthen of Wood that loads him, and labours on with a slow and unsteady Pace. Two Glasses of Wine deducted from the Collation I see preparing for us in this agreeable Meadow, will be sufficient to

change the Anxiety of his Air, and the painful Manner of his March in an Instant. In short, the Alteration will be so extraordinary, that you would hardly believe him to be the same Person.

Chevalier. The Experiment shall be made immediately, and I intend to charge myself with the Cup-bearer's Office.

Prior. Instead of the dejected Mien which disfigured his Countenance a Moment ago, the Wine has spirited his Features with an Air of Gaiety, and such a Freshness of Colour, as neither Essences nor Paint can imitate. Bread strengthens a Man for his Work, but Wine enables him to act with Vivacity, and renders his Labour agreeable. The Soul, which was before involved in a black Melancholy, seems to revive at the chearing Draught. She re-assumes her Powers, sheds her Energy through every Part; dispenses Agility to the Feet, and teaches the Lips to speak the Language of Joy. All her Anxieties are no more remember'd; she is inspir'd with lively Ideas, and the Timidity which seemed to contract her Faculties, by confining her to the Prospect of her Pains, immediately resigns its Empire to soothing Hopes and steady Resolution.

Countess. I have discovered another Property in Wine. It is so exceeding friendly to Man, that it varies its Flavour agreeably to our Dispositions. If we are blessed with a State of Health, Wine delights the Smell, regales the Palate, strengthens the Stomach, and seems to intimate to us its Conformity to our Wants. But if we happen to be indisposed, its enchanting Flavour is changed to an insupportable Bitterness; and it then seems to inform us, in the most obliging Manner, that its Qualities would increase our Disorder.

Chevalier. And yet the Wine itself has not sustained any Alteration.

Prior. The Change is accomplished only in ourselves. But is it possible for us to misapprehend that wise Oeconomy, which has discharged us from the Trouble of tedious Examinations, and uncertain Conjectures, with Respect to what Food may prove beneficial or injurious to us, since the same Oeconomy has made so admirable a Regulation of our Diet, by the compendious Method of pleasing Anticipations and salutary Disgusts?

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Chevalier. You have given Wine its due Commendations; but it is not always a beneficial Liquor. It renders some People extravagant, and even works them into Madness; and I have heard some Persons say, that it would be advantageous to Mankind, were all the Vines in general rooted up.

Countess. The most nourishing Food will occasion Distempers, when we use it with Immoderation. The Abuse of Wine, therefore, is not a sufficient Reason for suppressing it entirely.

Prior. We have frequently heard of pretended Philosophers, and unjust Law-givers; such as *Pentheus**, *Domitian*†, and *Mohammed*‡, who have endeavour'd to deprive Mankind of a Benefit afforded them by the Creator, tho' he was not unconscious that it would be subject to some Abuse. Those Persons, therefore, are most extravagantly partial to themselves, when they affect to be wiser than their Maker, and to eradicate the Vine, which he himself has planted for the Solace of our Labours. Wine is never neglected by any Nations, when they can procure it, either by Cultivation or Commerce. The Use of it is equally antient and extensive, since it is diffused over all the Earth, and ascends, at least, as high as *Noah*, the common Father of all Nations.

Countess. I should be extremely pleased to hear the History of the Progress of the Vine, and its Juice. The *Chevalier* likewise has an Inclination to be entertained with the Manner of planting and cultivating Vines, together with the Particulars of a Vintage. Let us therefore be seated; the Prior will favour us with the History of this Plant; and his Lordship, who has cultivated most of the Species we usually see, will acquaint us with the proper Methods of making Wine. The Prior has already told us, that the Use of this Liquor is as ancient as *Noah* himself; but may we be permitted to believe it was established before the Time of that Patriarch; or is he to be reputed the first Planter of the Vine?

Prior. We may believe, without the least Heresy, that the Vine is as old as the World itself. *Noah* was industrious

* Ovid. Metam.

† Cedren. & Euseb. Chron.

‡ See the Koran of Mohammed.

to communicate to Mankind the best Discoveries he had made before the Deluge. With this View he began with the Renovation of Agriculture; and as he devoted his first Care to the Plantation of the Vine, and the Extraction of its Juice, we may reasonably suppose that his Motive to this Proceeding was the Certainty he had acquired of its Usefulness.

Chevalier. But would he ever have suffered himself to be intoxicated, had he known the Nature of Wine?

Prior. That Accident is no Proof that he was unacquainted with the Qualities of the Grape; and we can only infer from it, that its Impressions were more potent upon him, after a long Discontinuance of its Use.

But however that Fact may be, the Propagation of the Vine was gradually extended from Land to Land by his Descendants; and we find that one of the principal Parts of the external Worship practised by most Nations, even in the remotest Ages, consisted in offering a Tribute of Bread and Wine to the Deity, as an Act of Adoration, and to testify their grateful Sense of his Goodness in blessing Mankind with Life, and the proper Accommodations for its Support. This was the usual Oblation; and when the Blood of any Victim was shed, that Sacrifice was always accompanied with a handful of Meal, or a Cake*, and likewise a Libation of Wine.

These Festivals were celebrated in the open Fields, and generally on some remarkable Eminence; and they were annually renewed at some stated Period. The Offering was always succeeded by a Feast, to which the People assembled to eat with a social Joy, as a Testimony of their mutual Union, and to intimate their regard for themselves as Members of one Family; though in Process of Time these Feasts began to degenerate into Riot and Intemperance.

Such was the Original of Festivals of Wine, which are so ancient in their Institution, and were afterwards transmitted from *Asia* to *Europe*, and other Parts of the World.

Chevalier. There were some Circumstances in the *Babylonian* Feasts, which had no relation either to Festivals or Wine. What could be the meaning of those Exclamations of *Io* and *Evohe*, which were so frequently repeated?

* *Mela* was a Barley-Cake, which they placed on the Head of the Victim; and from thence the Verb *immolare*, to sacrifice, is derived.

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what Use were the *Thyrſi*, or thoſe little Spears that were adorned with twining Flowers and Vine-Leaves? Why did thoſe who celebrated theſe Wine-Feaſts run from Mountain to Mountain, and aſſault every Animal they met in their Way; and when they had hewed them in Pieces, what could induce them to ſtain their Faces with the Blood? Wine never prompts People to ſuch abſurd Actions as theſe.

Prior. The moſt probable Conjecture I can offer with reſpect to the Origin of theſe extravagant Feſtivals is this; they at firſt were the Inſtitutions of Piety in Honour to the true God, but were afterwards diſfigured by the Circumſtances that were ſuperadded to them.

The Original
of Wine-
Feaſts.

Be pleaſed to obſerve, Sir, that all Nations in general, have a natural Deſire to perpetuate the Remembrance of great Events, by annual Reſentations of them on ſome particular Days; and I ſhall confirm this Obſervation by one or two known Inſtances. It was formerly the Cuſtom in *France*, and it ſtill prevails in ſome of our neighbouring Nations, to celebrate *Chriſtmas*, *Eaſter*, and ſome other Feſtivals with Dramatic Reſentations of the Myſteries we adore. And tho' the Chriſtian Religion, which entirely reſides in the Heart, and in a Life of Virtue and Integrity, derives but little Advantage from theſe tumultuous Practices; they, however, are always pleaſing to the People, becauſe they are ſuch Devotions as amuſe them, without any inordinate Influence on their Paſſions. The *Mohammedans**, in the Pilgrimage to *Mecca*, where they believe that *Iſhmael*, the Patriarch of the *Arabs*, formerly reſided, repreſent the Flight of *Hagar* into the Deſert, by ſome particular Ceremonies. They look behind them, and, on each ſide, they ſearch about with a ſeeming Inquietude, and afterwards expreſs a ſudden Joy, as if they had found what they ſought for. You may diſcover, in theſe Ceremonials, ſome Traces of the hiſtorical Account of the Well where *Hagar* and her Son quenched their Thirſt. Theſe Examples are ſufficient to my preſent Purpoſe.

All Antiquity is full of the like Ceremonies, which were inſtituted to preſerve the Memorial of thoſe Events in

* See Reland's Mohammediſm.

which the People thought themselves most interested. In the Times that immediately succeeded the Deluge, when the Sons of *Noah*, instead of dispersing themselves, in order to re-people the Earth, were determined to dwell together, and employed themselves in Building, in the Parts adjacent to the *Euphrates*; all the other Regions remain'd uncultivated. Whole Continents were darken'd with Woods, and the Animals multiplied without Number. After the Dispersion, when each Family began to be establish'd in the Lands they had chosen for their Settlements; the savage Beasts issued out of their gloomy Wilds, and infested the Labours of the Inhabitants by their Devastations; so that the new Colonies were never certain of enjoying either their Harvests, or the Fruit of their Vines. To check the Course of these Calamities, *Nimrod*, the Grandson of *Ham*, led the Youths of his Canton to the Chace, clear'd the Country of the rapacious Animals, and rose from a mighty Hunter, to the Dignity and Dominion of a Monarch. The People after his Death, not only celebrated solemn Festivals at his Tomb, and sung his Praises, after those of the Deity; which introduced the first Degeneracy of their religious Worship, but they likewise intermix'd these Festivals with Representations of those famous Huntings, which had secured Fertility and Safety to the neighbouring Countries. They usually began with Sacrifices and Invocations to the God *Jao*, or *Jeevoe*. They likewise carried a Spear, because they were advancing to a Chace; but this Spear was encompass'd with Flowers, and Vine-Leaves, because they were only to exhibit the Representation of a Chace; in consequence of which, they ran from one Mountain to another, and gave their Imitations an Air of Reality, by shedding the Blood of those Beasts they happened to meet. Those, who were cover'd with the greatest Quantity of Blood, seem'd to have been pre-eminent in the Chace: And as some of *Nimrod's* Expeditions were employ'd in hunting down the wild Beasts, and others were undertaken by him, with a View to instruct the People in the Manner of cultivating Corn and Wine; it became customary at these Feasts to carry, in a pompous Manner, the Van, with which they winnow'd their Corn; and a Portion of Wine was distributed among the Assistants. No Ceremonies could be better calculated to perpetuate the Memory of *Nimrod's* Services, and these Re-

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marks are at least a Sketch of what may be said with Relation to the Original of Wine-Feasts.

Countess. It is very easy to discover the Reason why they were always received with universal Approbation. While Devotion consists in taking an agreeable Progress through the Country, and is animated with chearful Feasts, it will never want Professors. But let us proceed in the History of the Vine.

Prior. This Plant was transmitted from *Asia* to *Europe*; and the *Phœnicians*, who were early Navigators, especially along the *Mediterranean* Coasts, transferred it to most of the Isles, as well as to the Continent. It succeeded to Admiration in the Islands of the *Archipelago*, and was afterwards introduced into *Greece* and *Italy*.

Pliny * was persuaded, that the Libations of Milk, instituted by *Romulus*, and *Numa's* Prohibition to honour the Dead, by pouring Wine on their Tombs, made it evident that Vines were very scarce in *Italy* at that Time. They were multiplied in the succeeding Ages; a Set of *Gauls*, who had tasted the Liquor, form'd a Resolution to establish themselves in the Countries that produced it; and instead of employing Letters and Exhortations, to engage other *Gauls* in the intended Expedition, they sent Quantities of Wine to all the adjacent Parts; upon which the Inhabitants of several Provinces immediately quitted the Acorns of their Forests. The *Alps* were insufficient to check their Progress, and they extended their Conquests along the two Shores of the *Po*, where they applied themselves to the Cultivation of the Fig, the Olive, and the Grape in particular. Such was the Motive to their Enterprize; and instead of blaming our Ancestors for having Recourse to Arms, in order to secure the Enjoyment of Wine, *Pliny* justifies their Conduct, by alledging the Purity of their Intentions. It has likewise been thought that those *Gauls*, who establish'd their Settlements along the *Po*, transmitted to us the useful Invention of preserving Wine in wooden Vessels exactly closed, and of confining it in that strict Inclosure, notwithstanding its natural Impetuosity. Its Preservation and Transmission to distant Parts, became more practicable from that Period than it could be before, when it was kept in earthen Jars, that

* Hist. Nat. l. 14. Sect. 14. Cic. pro Fonteio.

were easily shatter'd, or in Skins, which were liable to be unsew'd, or to grow mouldy.

The Inhabitants of *Marseilles* and *Narbon* had some Vines, when *Gaul* was conquered by *Julius Cæsar*; but the Progress of their Cultivation was prohibited by *Domitian*; and the *Gauls*, as well as the *Britons* and *Spaniards*, were not permitted to plant them till the Reign of that excellent Emperor *Probus* *. He was sensible that the Promotion of Agriculture ought to be inseparable from a good Government; and that the Reign of a Prince can never be propitious, unless he be sedulous to procure Plenty and Tranquillity to the People of whom he is constituted Father. The Plantation of Vineyards in *Britany* in the Northern Part of the *Celtic* Provinces was attended with unsurmountable Difficulties on the Part of Nature; and the Inhabitants of those Countries, and even of the *Celtic Gaul*, continued to extract their usual Drink from Barley, for want of a sufficient Growth of Vines;

*Unthriving Vines compell'd the Celtic Swain
To force a Liquor from the bearded Grain †.*

But they at last were planted by Degrees in all Countries where there was any Possibility of their Success. *St. Martin* planted one in *Touraine*, before the Close of the fourth Century. *St. Remi*, who lived at the latter End of the fifth, and the Beginning of the next Century, left to several Churches, by his Will, the Vineyards he possess'd in the Territories of *Rheims* and *Laon*, with the Slaves he employ'd in their Cultivation. From that Time these Plants began to be propagated through all *France*, and they probably invited the *Franks* into *Gaul*, as they had already engaged the *Gauls* to fix their Settlements in *Italy*. The other *German* Nations, who had no more Conquests to pursue, endeavour'd to open a Tract of Land in the *Black Forests*, and to plant Vines along the Banks of the *Rhine*.

* Anno Christi 282. Vopiscus in Probo.

† See the Epigram address'd to Beer, by the Emperor *Julian*, in the *Antologia*.

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Hungary had likewise its Vineyards; and when they afterwards were propagated in all Parts, the Inhabitants grew satisfied with their Condition, and were no longer solicitous to secure new Settlements.

Countess. Let any one tell us, after this Account, that Wine is only fit to promote Disorders in the World. *Europe* never enjoyed a pleasing State of Tranquillity till Vineyards were planted by its various Inhabitants

Prior. It will be proper to accompany this History of the Vine, with a short Account of its Juice. The different Species of it are almost innumerable, and they vary in their Colour, their Flavour, their Qualities and Duration. We may even say, that the sorts of Wine are as much diversified as the Soils that produce them; they, however, may be all comprehended in two Classes, namely, the sweet Wines, and those which are dry*.

The different
Sorts of Wine.

The sweet Wines are those which have a rich and racy Flavour, not unlike that of Honey; and their Perfection consists in the Intermixture of an agreeable Bitter with their native Perfume. *Muscadine* Grapes † are the fittest for these sorts of Wine, but they require a hot Climate for the Accomplishment of their due Maturity. The Classes of this Wine, which are most esteemed among us, are those of *Citruade*, and *St. Laurence*, in *Provence*; or *Frontignan*, in *Languedoc*; of *Condrieux*, in *Lyonnois*; of *Arbois*, in *Burgundy*; of *Rivesalte*, in *Roussillon*; and some other kinds.

Foreign sweet Wines are *Tocai*, which grows in a very small Quantity, on a Hill in *Hungary*; *Verdée*, *Muscadel*, and *Montefiasconè*, which are all *Tuscan* Wines; the *Greek* Wine of Mount *Vesuvius*, which deepens in to a golden Yellow; and the *Lachryma*, which is a very red Wine, and is likewise produced by the same Mountain, when it suffers its Devastations of the Vineyards that are near its Summit. To these we may add the Wines of *Malaga*, which are cultivated in the Parts adjacent to *Gibraltar*; together with those of *Alicant*, and several other Provinces in *Spain*; nor must we forget the Wines of *Madera*, which is an Island belonging to the *Portuguese*, and is situated at the

* Vinum dulce; Vinum austerum, vel severum.

† Uvæ apiciæ, vel apianæ, ab apibus & mellis sapore.

Entrance into the Ocean. The best *Canary* Wines are brought from the Island of *Palma*. *Malmsey*, which is a very thick Wine, is produced in the Island of *Candy*. The other *Greek* Wines grow in *Chios*, *Tenedos*, *Mitylene*, and other Isles in the *Archipelago*. The Wine of *Schiras*, in *Persia*, is of the same Nature.

All Wines have three principal Parts, which are Oil, Salt, and volatile Spirits. The Generality of Sweet Wines are incapable of acquiring that just Temperament, which consists in a blendid Sweetness and Acidity, without the Operation of Fire. In order to accomplish such a perfect Incorporation of their Oil and Salt, as may correct the Poinancy of the one, by the Sweetness of the other; the Grapes must be exposed to the Sun, on their native Stock, till they begin to grow dry; and to prevent the Grapes from deriving any future Supply of Juices from the Earth, which would retard the Completion of this Intermixture, it will be proper to twist the Pedicles, by which the Bunches are fasten'd to the Vine. The next employment will be to press out the Liquor, which will then have acquired the Consistence of a Syrup; and these are the Particulars of the first Method. The second consists in expressing the Must of the Grapes when they are ripe, and in boiling it, so as to cause a Sediment to rise to the Top of the Vessel*. This Operation, which is always violent, communicates a Taste of Fire to the Wine, but it likewise qualifies it for a longer Preservation. The third Method is to boil the Juice of the Grapes, till it be reduced to half its original Quantity, or even to one third, and it will then thicken into a very tenacious Syrup.

The Care which is taken to dephlegmate the Wine, by the two first Methods evaporates most of its volatile Spirits; in Consequence of which, it always continues in a languid State, and its Fermentation can never be perfect, because it is unnatural. It is likewise impossible for these Wines to be light and fine, for which reason they may be fitter than our Growths for hot Countries, where the Blood

* Aut dulcis Musti vulcano decoquit humorem,
Et foliis undam tepidi desumat aheni.

Georg. I.

Or the rich Must his timely Care proclaims,
While he refines it o'er the crackling Flames.

is rarified rather than surprising have been mentioned to with the

Dry V Spirits for such by the great lizes the stimulating agreeable the *Moses* which are their Blood mours.

These either grow Quality in Heart, and with gay Wines are a Heading usually come much the has not fit to the Pro in his Vin any regular Flavour, either from the Vine.

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is rarified to a greater Degree, and requires a substantial, rather than a spirituous Liquor. It is therefore not at all surprising, that the *Italians* and other *Southern* People, who have been habituated to a vinous Syrup, which is proportioned to their Constitutions, are rather disgusted than pleased with the Vivacity of our Wines.

Dry Wines, on the contrary, have the Salts and volatile Spirits for their predominant Parts, and these are render'd such by a perfect Fermentation, which divests them of the greatest Part of their Oil, and so attenuates and subtilizes the Remainder, as not to deprive the Salts of those stimulating Qualities, by which they affect the Tongue with agreeable Impressions. Of this Nature are the *French*, the *Moselle*, the *Rhenish*, and several *Hungarian* Wines, which are more salutary to the *Northern* People, by rendering their Blood volatile, and refining it from all gross Humours.

These Wines are render'd very defective, by their being either green or luscious, gross or heady. Their luscious Quality is a great Imperfection, because it dispirits the Heart, and disorders the Stomach, instead of reviving them with gay and pleasing Impressions. The most excellent Wines are obnoxious to this Defect, as they likewise are to a Headiness of Fumes; but each of these ill Qualities is usually corrected by a proper Age. Greenness is not so much the Defect of the Wine, as it is of the Season, which has not sufficiently ripened the Fruit; or it may be owing to the Proprietor, who, perhaps, has been too precipitate in his Vintage. In a word, it is rather an Abortion, than any regular Process of Nature. The harsh and terrestrial Flavour, is the greatest Imperfection of all; and it results either from the Sun itself, or an injudicious Cultivation of the Vine.

Wine may be said to have all its good Qualities, when it proves full, and at the same time soft to the Palate; when it preserves a good Body, in Conjunction with a due Lightness; and when it retains a bright Colour, a pleasing Scent, and a delicate Flavour. I fancy, my dear *Chevalier*, you will be desirous of obtaining such Wine as this, whenever you have an Inclination to amuse yourself with the Culture of your Vines; and you may be certain of Success, if

you will pursue the Directions you will now receive from his Lordship.

Count. There are various Methods of forming the Vine, and conducting the Process of a Vintage. The Plant itself is naturally weak; but Nature has supplied it with small Tendrils, or a kind of Arms, which it clasps around the Bodies that occur in its Way, and secures itself, by their Assistance, against all Shocks of Wind. We rear it on a single Prop in *France*; but it is customary, in some other Countries, to support it either with a strong Reed, a long Pole, or wooden Forks. The prevailing Method in *Greece* and *Italy* is to train up the Vines to Elms, along the Branches of which they extend themselves without Restraint, and gradually ascend to the Top.

* *The next Precaution of his rural Cares
A Range of Reeds, and forked Props prepares;
On these the Vines their clasping Progress form,
And brave the Rigours of each rising Storm;
Ascend the hospitable Elm, and spread
Their swelling Clusters o'er its verdant Head.*

The *Asiatics*, who have several Species of very large Grapes, are obliged to dispose their Vines on raised Works of Lattice, which, by these Means, are converted into so many verdant Pavillions, under which the Natives enjoy the Refreshment of a breezy Shade. The same Soil frequently supplies them with Rice or Corn for their Food, and Wine to crown their Bowls; at the same Time that the Growth of Mulberry-Trees sustains their Vines, and nourishes the Silk-Worms that array the Natives.

The particular Method practised in each Country is thought, by the Inhabitants, to be best adapted to their Necessities. They would imagine themselves infinitely prejudiced, were they to act in any other Manner; and I confess, it would be imprudent to recede from an established Custom, unless it has been made evident by repeated Ex-

* ———— Superest ————

Tum læves calamos & rasæ hastilia virgæ,
Fraxineasque aptare sudes, furcasque bicornes,
Viribus eniti quarum & contemnere ventos

Affuecant, summasque sequi tabulata per ulmos. *Georg. 2.*

periments,

periments, that a different Proceeding would be more effectual. But I have observed, in my Travels, that People generally act by Rote; and we have a vast Number of Vineyards, the Vines of which would be infinitely better, and might be kept much longer than they are at present, were they cultivated in a more regular Manner.

My Inclination to plant a Vineyard on some Part of my Estate, made me attentive to the different Methods that are practised in our Provinces; and I could not discover any that deserved to be rank'd in Competition with those Precautions that have been taken by the Inhabitants of *Champaign*, for fifty Years past. Their Wine was indeed very excellent, and much esteemed before that Time, but it wanted a sufficient Body, and was incapable of Transportation to distant Parts; till, at last, the Natives, by a long Course of Experience, acquired the proper Methods of tinging it with the Complexion of a Cherry, or the Eye of a Partridge: They could likewise brighten it into the whitest Hue, or deepen it into a perfect Red. In a Word, they improved it to such a Degree, that it will now retain all its fine Qualities for six or seven Years, and very frequently for a longer Space of Time.

The exact Observation of this Method in *Cuissi*, *Pargnan*, and other Cantons of *Lyonnois*, has produced a Growth of Wines, which are esteemed by all *Flanders*, as much as those of *Burgundy* and *Champaign*.

The Practice of the same Method, in different Parts of *Burgundy*, has raised several Wines, out of Obscurity, into a general Esteem; though their Names were not so much as known a few Years ago.

This Method relates to the Vine, the Press, and the Cellar.

The particular Circumstances which constitute the Process of a Vine, are Plantation, Propagation, Pruning, Cultivation, Binding, Earthing, and Dunging.

The Culture of the Vine.

It should never be planted in such strong Soils as are proper for Corn; for tho' they abound in Salts and Juices, yet, as they always harden after Rain, the least succeeding Heat renders them impenetrable to the Action of the Air and Sun, and prevents the due Refinement of their Fluids. In Consequence of which, they are incapable of Activity and Perfection,

Perfection, and the Vine either degenerates into a yellow Hue, or yields a harsh and gross Juice. A Soil moderately thin and light, rather dry than moist, bending into a Declivity, and intermixed with Gravel, or small Flints, is more adapted to the Vine, than the richest and most fertile Land. The Attritions, which these small Stones receive from Culture, may possibly cause them to discharge certain Salts, or even Particles of Fire and Sulphur, capable of infusing an agreeable Vivacity into the Wine. But however the Fact may be, it is certain that all soft and light Soils impart a greater Degree of Delicacy and Flavour to their Productions; because the Influence of the Action of the Air, which penetrates their Pores, without any Impediment, unfolds and diffuses the volatile Spirits and all the finest Principles of Vegetation, in the most effectual Manner.

I am not for planting a Vine too near a River, and much less in the Neighbourhood of marshy Lands; because their exhaling Humidity, which sheds itself over all the adjacent Soil, renders the Morning Frosts more injurious to the Leaves of the Vine; the Loss of which is always succeeded by that of the Fruit.

The Vine is propagated either from Slips, or else from Plants that have already taken Root. The former of these are little Sprigs without Roots, and which are cut in Winter from Stocks of a kindly Nature, and are preserved in Bundles in a Cellar, till the Season intended for their Plantation. Towards the End of *March* these Bundles should be steep'd in miry Pits, for the Space of eight Days; after which they are inserted in the Earth, not in an upright Position, but slanting a little on one Side; and three or four of them are set in each of the Apertures, which ought to be a Foot distant from one another; and all Redundancies are afterwards to be cleared away. The largest End of the Shoot must be sunk into the Earth to a very moderate Depth; and Care should always be taken to leave an Inch or two of old Wood that has had two Years Growth.

Rooted Plants are young Stocks that have grown two or three Years in a Seminary. The Soil of which should be a little thinner than the Ground, into which they are to be transplanted. This Removal is made in *November*, and the Stocks ought to be placed in the new Soil, the Moment they are taken out of their native Earth, because their De-

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liacy will be greatly injured by the least Delay. These Seminaries should always be inseparable from an Estate in Land, since they are infinitely useful. The rooted Plants begin to be fruitful the third Year, and frequently retain their Fertility for the Space of sixty Years.

A Vine may likewise be renewed, either in the whole, or in part, by means of Layers.

This Operation is performed by bending such of the finest Shoots, as should otherwise be pruned off from their Stock, and by burying the old Wood in a little Trench of some length, while that which is young rises above the Surface. When that Part which has been sunk in the Soil has taken Root, the other Extremity is either permitted to remain on the Parent Stock, in order to beautify the adjacent Spot with one continued Growth; or else it is cut off below the Roots, and this new Stock is then taken out of the Earth, to be transplanted as Occasion may require.

Another Method of laying Vines is performed by causing the Extremity of a fine Shoot to pass through a little Basket, which is sunk into the Earth for that Purpose. The Shoot so disposed takes root in the Basket, below which it is cut off in the Month of *November*, and is then raised out of the Earth as steadily as possible; after which it is transplanted with the little Basket, into the intended Situation. These are the four Methods by which a Vine is multiplied; and we will now proceed to the Pruning Part.

This Operation ought to correspond with the Quality of the Wood, and likewise of the Soil that supplies it with Nourishment. If the Earth be extremely thin, and the Wood a little weak, it is usual to leave no more than two or three Buds at most on the young Wood of that Year's Growth; that the Sap, by being confined to so small a Number of Buds, may cause them to emit Shoots of a moderate Strength; but if the Earth be very nutrimental, and the Stock vigorous, three or four Buds are permitted to remain on the young Wood to weaken the Action of the Sap, and to prevent it from shooting out too large a Growth of new Wood.

Vine-Dressers, as well as Gardeners, are prepossessed with an old Opinion, that Spring is the only proper Season for pruning; and yet they often act inconsistently with that Persuasion,

Persuasion, since they frequently begin to prune in *January*, in order to prevent their being embarras'd by too many other Works, which hinder their Accomplishment of this in due time. But, with all their Expedition, a great Part of this Operation remains uncompleted, even when the Month of *April* is far advanced. The Sap, which began to exert its Energy in *March*, pursues its natural Course, and first swells in the Buds, in the Extremities of the Plant, which are the very Parts that ought to be retrenched; and then, finding the Ends of its Canals entirely laid open by Pruning, it weeps through those Apertures till the Heat begins to thicken it, and prevent its future Dissipation. But the Sap would never be wasted, either in Tears or useless Buds, had Care been taken to prune the Vine immediately upon the Fall of the Leaf. This Practice is recommended by Monsieur de la Quintinye; to which I may add, that it has been frequently found to be successful; and any Person may venture to make the Experiment on some small part of a Vine, in order to be convinced, that those Advantages of an easy Culture in Spring, which result from Pruning in Autumn, are not discredited by any Inconvenience whatever.

March is the Season for dressing the Vine, after it has been pruned; and this Operation varies agreeably to the Nature of the Plants, which, among us, are of two sorts; namely, the high Growths, which are suffered to shoot up to the Height of five or six Feet, in Soils of a moderate Fineness; and the low Growths, which are not permitted to ascend above three Feet at most.

The high Vines are annually dress'd; and once in fifteen Years they are lower'd, and laid down in a Trench two Feet in breadth, and almost as deep as the Stock. When this has been covered with Earth, three or four of the finest Shoots, which adhere to it, should be extended on each side, and disposed into little Trenches six Inches deep, in order to furnish as many Layers. The old Wood will resume a new Vigour, by thus exerting itself in a fresh Soil; and this Operation is performed in the Month of *November*.

The Method is different with respect to low Vines, which are productive of the best Wine. They are laid in the Earth every Year, and dress'd in such a manner, that

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a Stock will shoot several Paces under-ground, and frequently as many Fathoms, in a Number of Years. Care is always taken to lower the Stock with as much Equality as possible, and to prevent its deflecting into a Curve, which would expose it to the Danger of being cut, in the Culture of the ensuing Year.

When the Vines are found to be too old, they should either be rooted up, or grafted. If we have Recourse to the former Expedient, the Soil should be suffered to rest one Year, at least, before we plant it a-new; and it will be proper to sow it with Corn, which never fails to succeed, or else with Rye, or some of the *March* Grain, in order to thin the Earth, and render it more light and proportionable to the Delicacy of the young Plant, which, without this Precaution, would be choaked by too strong a Nutriment.

If the old Vine should still shoot out a Growth of vigorous Wood, that is unproductive of Fruit, it will be proper to graft it, instead of rooting it up. All the old Wood should be laid in the Earth, and no more than two or three Shoots of that Year's Growth should be suffered to rise above the Surface. The Graft will be more successful on these, than on the old Wood, which is not easily opened by Incision, and whose Thickness no way corresponds with the Graft. The Vine is grafted in the Cleft, and the Operation resembles that of other Trees.

The Depth, to which high Vines are laid in the Ground, makes it unnecessary to furnish them with new Earth; but the low Vines must have this Supply every twelve Years in very light Soils, and every fifteen Years in those which are most nutrimental. These Plants, however, require but a moderate Quantity of additional Earth; and it is always customary to leave the Distance of a Foot between each Basket of the supplemental Soil; and should this be too strong, it may cause the Vines to degenerate, and deprive the future Wine of its due Fineness; it would likewise cover the Stem with an Incrustation, thick enough to deprive it of those aerial Influences as supply it with the proper Pabulum of Fire, and the most perfect Juices.

A moderate Quantity of Dung is likewise applied to Vines every seventh Year, when the Soil is extremely light; and every twelfth Year, when it happens to be a little more compact. A Redundancy of this Manure would scorch the

the Body of the Plant; it would also shorten its Duration, and alter the natural Quality of the Wine. Neats-Dung is the properest for light Soils; but this must have an Intermixture of Horse-Dung, for such Lands as are strong. Sheeps-Dung, when its Heat is evaporated, is very serviceable to Vines, when they grow yellow, provided it be employed in lesser Quantities than the other Manures. *November* is the proper Season for affording Vines this Part of their Culture, and it is deferred till the Month of *February*, when the Autumn has proved rainy, lest the Earth and its Manure should form an injurious Glew round the Stem, to which they adhere.

The best Season for training Vines to their Prop, is when the Flowers begin to appear. It is likewise customary to pare the Vine, much about the same Time; but it is not very material whether you perform this before, or after the Plant has been fasten'd to its Prop. Paring the Vine consists in cutting off the Ends of the Branches, and retrenching the little Shoots, which rise from the Bottom and Sides of the Stock. This Operation should be repeated, in order to secure a copious Sap for the Fruits that are unfolded.

It is altogether as necessary to clear away, at two or three different Times, all the Weeds, which spring about the Stems of Vines, and which either impoverish, or chill the Earth. But whether a Hoe, or a Mattock, be employ'd on this Occasion, the Dresser should always be cautious of opening the Earth about the Vine, after Rains or Frosts; for if this Operation be perform'd after a rainy Season, it hardens the Soil, and renders it impenetrable to the Air, and consequently causes several Stems to become yellow, and wither away. And if the Earth be stirred after Hails or Frost, it is exposed to such a fatal Chillness, as will, at least, retard the Process of Vegetation, for a considerable Time.

The Vine has three dangerous Enemies, from whose Ravages it is difficult to preserve it.

The first of these is a small Beetle, that resembles a *May-Bug*, in Shape and Colour, but is much inferior to it in Size.

This Insect continues in the Earth, during the Winter-Season, and fastens itself to the Stems of young Vines in particular; gnaws their most tender Roots, and frequently

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quently destroys them. It makes its appearance in the Month of *May*, and after it has fix'd itself on the green Foliage, it preys on their Substance, and pierces the Fruit-Buds, and the young Shoots, which often proves destructive to all the new Wood. But this Devastation may be prevented, in a great measure, by sowing a good Quantity of Beans about the Vine; which the Animal will quit for the new Growth of Leaves, and these may easily be multiplied in a short time. These Leaves, with the Breed of Insects that rest upon them, may afterwards be advantageously removed, and burnt around the Stem of the Vine; by which means, another Disaster, more prejudicial than the former, may be seasonably prevented. These Animals pierce the Clusters when they are ripe, in order to inject their Eggs into the Berries; in consequence of which, Legions of Worms will be produced to the destruction of the Grapes, and the total Frustration of the approaching Vintage. The Sun draws all the Juice from the penetrated Grapes, and soon reduces them to Powder. The Worms, when they are satiated with their Food, seek a proper Retreat, for the Accomplishment of their Transformation into *Aurelias*, and afterwards into Beetles. If they happen to discover a Heap of Compost, they chuse it for their Mansion; and several Persons place a quantity of it about the Stocks of their Vines. This Manure is the Rendezvous of these, and a Variety of other Insects; and if Care be taken to burn it, at the Close of Winter, all these noxious Animals will be effectually destroy'd, and the Ashes are almost as serviceable as the Manure itself.

There is likewise another small Beetle, something less than a common Fly, and cover'd with a green Shell, whose Surface glitters with the brightest Gold. This Animal is furnish'd with a very long and hard Trunk, indented into several Saws, which prove very prejudicial to the Grapes, and likewise to the tender Leaves; which the Creature rolls around its Body, and lines them with a sort of Down for the Reception of its Eggs. In the Winter Season, it either retires into the Earth, or lodges itself into a Heap of Compost, where it continues buried in Sleep. The Vine-Dressers are industrious to find out these contorted Leaves, which enfold the Eggs, and they burn them at the foot of the Vine.

'Tis

'Tis customary to employ the Hours of descending Dews, or the Cool of the Morning, in destroying the Snails, that conceal themselves during the Heat of the Day; and as these Animals are an Ingredient in the Ragoûts of *Languedoc*, the Inhabitants of that Province are very solicitous to discover them. It would be in vain for one industrious Person to attempt the Extermination of these Insects from his Vineyard; the Inhabitants of the whole District ought to concur with him in that Employment, or he will otherwise be too much fatigued, in destroying a hundred Enemies in one Vine, while two thousand are marching to invade the neighbouring Plants.

When the Cultivation has been properly conducted, and a favourable Summer has co-operated with the Labours of the Vine-Dresser, the Grapes will, at last, acquire their compleat Maturity, and it will then be necessary to prepare for the Vintage. The Fats are carefully clean'd, and the Wine-Press, with all its Appendage of Vessels, have their proper Disposition assign'd them, for the ensuing Work. But the manner of making Wine, and the Methods by which it is duly order'd, shall be reserved for our next Walk; and we will conclude this with a Turn or two in the Vineyard, where you shall be presented with a View of most of the Particulars I have related.

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D I A L O G U E XIV.

The COUNT. The COUNTESS.
The PRIOR. The CHEVALIER.

Countess.

OUR Preparations for the Vintage are all compleated, and the Vintagers are flocking towards us, to offer their Services on this Occasion. What Commands has your Lordship for them at present?

Count. The Quality of the Wine depends on the due Performance of their several Functions. I inform them, that they must bring in the Grapes, at three different Gatherings; in the first of which, they are to chuse those Bunches that are most ripe, and have the fewest, as well as the finest Grapes; and they must be careful to clear away all the Berries that are green, rotten, or scorch'd, together with such as have been pierced by Insects. I likewise direct my People to cut the Grapes very short; because the Stalks are bitter, and vitiate the Wine with a Flavour of the Wood, in proportion to their Length.

The second Gathering must be confined to the large thick Clusters, that are not so ripe as the others; and those which are green, withered, or rotten, should be gather'd last. I consign these three Gatherings to as many Pressings, whose Difference you may easily comprehend.

This

This first Labour, which is of the utmost Importance, may be complicated by another Method. I have Vines that vary in their Qualities. Some are planted in a very light and stony Soil, and they yield a bright and fragrant Wine; others are placed in a more nourishing Tract of Land, and they produce a Wine of a greater Body. If I have an Inclination to unite these good Qualities, in the same Wine, and to meliorate the one, by an Intermixture of the other, I can accomplish my Design, either in the Vineyard, by blending these different Grapes together; or else in the Cellar, by mixing the several Wines I have press'd; but if I neglect to make this Intermixture, by cutting one Species of Grapes with the other, I hazard the Loss of all my Vintage. When the Wines are once made, it will be difficult to mix them to any degree of Perfection; the weakest will change its Complexion, and communicate its Defects to the other, instead of being corrected by the good Qualities of the associated Juice; and one of its least Imperfections, tho' far from being inconsiderable, will be a disagreeable cloudy Tinge, accompanied with a Sediment, which will always tarnish the Beauty of the proper Colour, and divest the Wine of its fine Flavour and Transparency. But this Effect will be prevented, if I intermix the best Grapes of one Vine with the most perfect Productions of another. The seasonable Combination of these different Fruits, will produce an exquisite Liquor, that will have all the Advantages of a sufficient Body, a Delicacy of Flavour, a Fragrancy of Scent, and a Liveliness of Colour, and which may be kept for several Years, without the least Alteration. These Observations of mine have been justified by a long Experience; and it was the Knowledge of those Effects that result from intermixing the Grapes of three or four Vines of different Qualities, which improved the celebrated Wines of *Sillery*, *Ai*, and *Haut-villiers*, to the Perfection they have now acquired; and indeed they seem to comprehend all the Excellencies that can possibly unite, to regale the Palate.

Father *Parignon*, a *Benedictine* of *Haut-villiers*, on the *Marne*, was the first who made any successful Attempt to intermix the Grapes of different Vines in this manner; and the Wine of *Perignon*, or *Haut-villiers*, bore the greatest Estimation

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Estimation among us, till the Practice of this Method became more extensive.

Chevalier. As I was Yesterday reading *Boileau's Feast*, I found all the Names, your Lordship has mentioned, in the explanatory Account of the *Hilly Order*, which, as the Commentator observes, was a Society of Men of Pleasure, who were divided in their Opinions, with Respect to the Merit of the several Vines that grow on the Hills adjacent to *Rheims*. I was then desirous of consulting the Map for the Name of *Perignon*, *Sillery*, *Haut-villiers*, *Ai*, *Taissy*, *Verzenai*, and *St. Thieri*, which are introduced in the Notes: But I lost my Labour in looking for the Name of *Perignon*.

Countess. The Author of those Notes has ascribed the Name of a Man to a Mountain; but this is a trifling Mistake; and, if you please, Sir, we will return to our Vintage. I can now comprehend the Reason why the Wines, made by Country People, are so inferior to those we drink at the Table of Gentlemen, and rich Citizens, tho' they are both produced from the same Vines, and the same Grapes. The Peasant, who possesses only an Acre or two of Land, is unable to make proper Selections and Intermixtures of Fruit; he makes but one Pressing, or he thinks he shall reform the bad Wine, by blending it with the good; while he, in Reality, injures the good, by intermixing it with the bad; but the Proprietor of a large Vineyard has an Opportunity of considering the different Qualities of his Vines, and can form such an Intermixture as will bring his Wine into Reputation.

Count. My Remarks on the Choice and Assortment of different Grapes, are equally applicable to grey and red Wines.

Chevalier. Your Lordship speaks of the Colour of Wine, as if we were capable of forming it in what Manner we please. Can a white Grape be made to afford us a Wine of a different Tincture? And is not red Wine the constant Product of a black Grape?

Count. White Wine is, undoubtedly, the natural Juice of a white Grape; but its Strength and other Qualities are generally very imperfect; it is likewise apt to grow yellow, and it degenerates before the next Return of Summer. These white Wines grow out of Repute at present, and are only
useful

useful in some medicinal Prescriptions; but the grey Wine, which has so bright an Eye, and resembles the Complexion of Crystal, is produced by the blackest Grapes. And its Whiteness can never be so well promoted, as when all the Stocks of white Grapes are rooted up. It was formerly very difficult to preserve the Wine of *Ai* longer than one Year. When the Juice of the white Grapes, whose Quantity was very great in that Vineyard, began to assume a yellow Hue, it became predominant, and created a Change in all the Wine; but ever since the white Grapes have been disused in the Wines of *Champaign*; that, which grows on the Mountain of *Rheims*, will last seven or eight Years, and the *Marne* Wine may be easily kept for the Space of four or five. And if the same Precautions are used, with Respect to the Wines of *Burgundy*, they will not begin to degenerate in the third Year, and frequently in the second, as has often been experienced.

Chevalier. What Methods are taken to make the black Grapes, which afford a red Wine in *Burgundy*, produce a Wine as white as Water in *Champaign*?

Count. The Wine of a black Grape may be tinged with any Colour we think proper; those, who desire to have it perfectly white, have Recourse to the following Method. The People, employed in the Vintage, begin their Labours at an early Hour in the Morning; and when they have selected the finest Grapes, they lay them gently in their Baskets, in order to be carried out of the Vineyard; or they place them in large Panniers, without pressing them in the least, or wiping off the dewy Moisture, and the azure Dye that cover them. Dews and exhaling Mills greatly contribute to the Whiteness of the Wine.

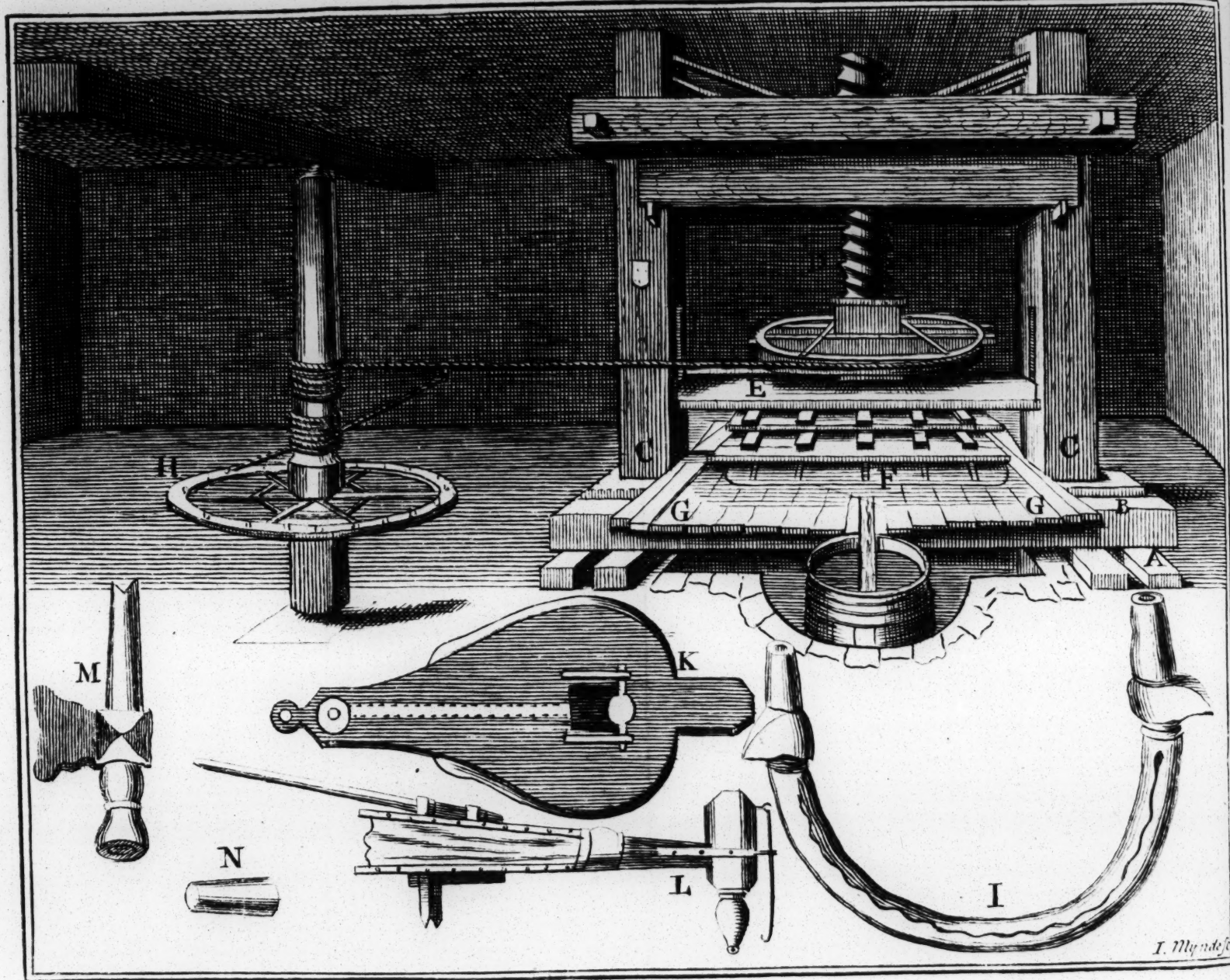
'Tis customary to cover the Baskets with wet Cloths, in a hot Sun-shine; because the Liquor will be apt to assume a red Tincture, if the Grapes should happen to be heated. These Baskets are then placed upon the Backs of such Animals as are of a gentle Nature, and carry their Burden with an easy Motion to the Cellar, where the Grapes continue cover'd, in a cool Air. When the Warmth of the Sun proves moderate, the Labours of the Vintage are not discontinued till Eleven in the Morning; but a glowing Heat makes it necessary for them to cease at Nine. When the Baskets have been convey'd to the House; and you will naturally imagine

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imagine it ought to be near the Vineyard, that the Grapes may neither burst, nor be heated in the Carriage; the next Employment is to throw them into the Press, whose Use and Structure you shall have an Opportunity of seeing, when we have finished our Walk.

When the first Pressing has been dispatched with Expedition, the Grapes that were scattered from the Heap are gather'd up, and the Press is work'd anew. When this Operation is over, the Extremities of the Mass are squared off by a large cutting Peel, and are then thrown upon the other Fruit, in order to receive the third Pressing; which, from this Circumstance, is called the first Cutting. The large Beams of the Press are likewise lower'd several times; and these Operations are called the second, third, fourth, and fifth Cuttings.

The Wine of the first Pressing is kept apart from the rest, when the Fruit happens to be very ripe, and the Season extremely hot; because it then gushes out in a copious Flow, and would be apt to redden, were it intermix'd with the Liquor of the second Pressing; but this Mixture is useful, and sometimes necessary in a Year of moderate Heat, and when the first Pressing has not afforded a large Quantity of Juice. The Wine of the first Cut may be sometimes blended with that of the two first Pressings; but several Persons of great Judgment decline this hazardous Management, lest it should be injurious to the Transparency of the first Wines. The Wine that is produced after any of the Cuttings, is excellently qualified to form a perfect Liquor, and may be intermixed with red Wines, if they happen to be made apart.

The Wines of the several Cuttings are always gradually redden'd, because the Press begins to operate more effectually on the Skin which enfolds the Berry, and the Particles, which are then disengaged from it, impart the red Tincture to the Wine. The Heat of the Sun, and the Shocks of the Carriages are sometimes so violent, and produce such strong Effects on the exterior Coat of the Grapes, that the Fluids contained in that Coat, and which are then in Motion, mix themselves with the Juice of the Pulp, at the first Pressing; in consequence of which, the Extraction of a Wine perfectly white is render'd impracticable, and its Colour will resemble the Eye of a Partridge, or perhaps

some deeper Hue. The Quality of the Wine is still the same, but it must be either entirely white or red, in order to prove agreeable to the Taste and Mode which now prevail.

The Wine of the sixth Pressing is mix'd with that which is extracted from the Refuse of the Grapes, for Uses of less Consequence. The Presses of *Champaign* squeeze the Fruit with so much Violence, that the Marc becomes as hard as a Stone. An ill-flavour'd Brandy is drawn from this; but it proves very effectual in asswaging the Anguish of Wounds or Bruises, and is likewise useful on several other Occasions.

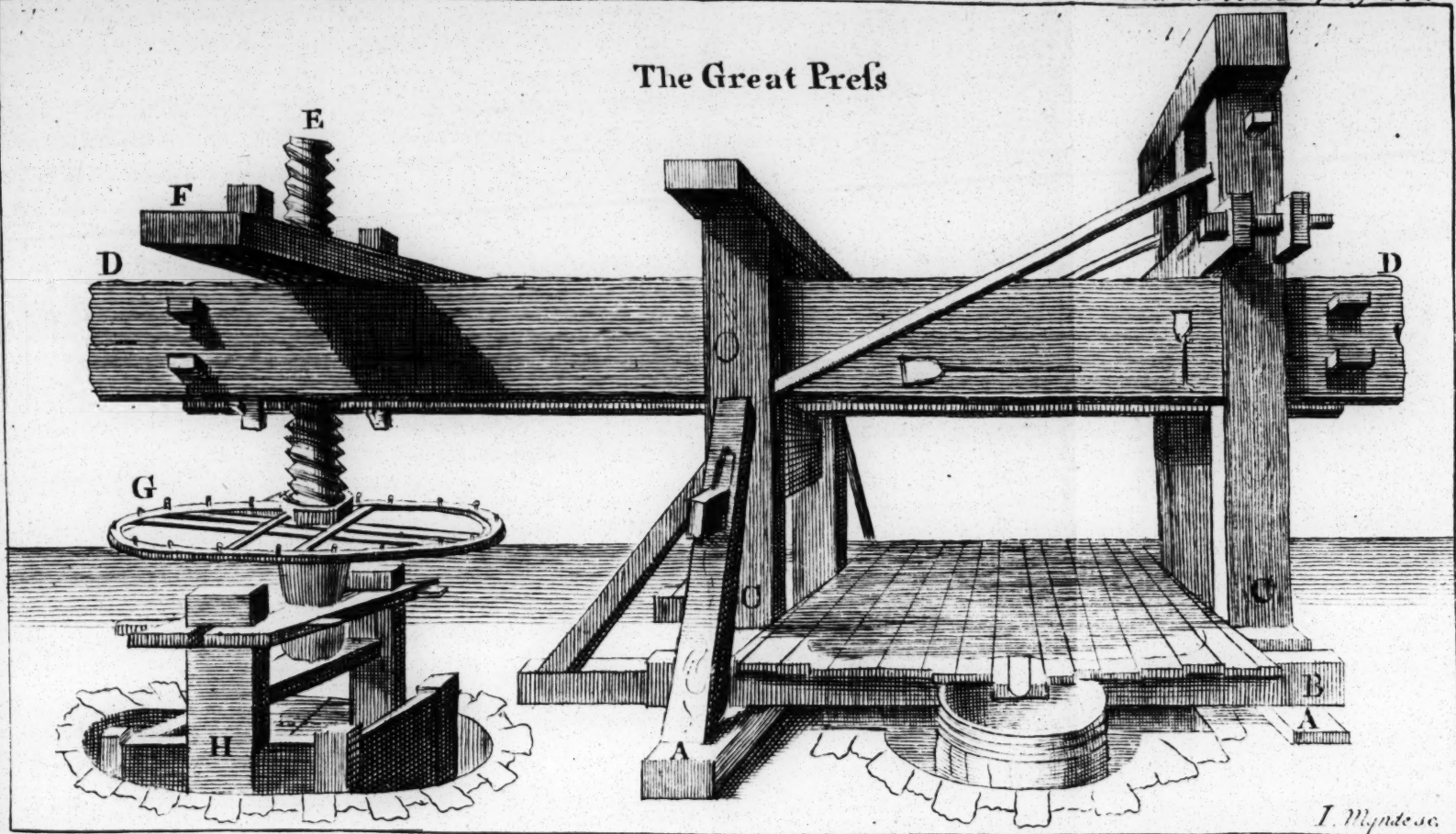
We will now proceed to red Wines, whose deep Complexion, as we are sensible by Experience, results from the particular Degree to which the Juice of the Skins is intermix'd with that of the Pulp. This strong Tincture is imparted to the Wine by trampling the Grapes, and throwing them into the Fat before they have been press'd. The Heat and Spirits which operate in the Fat, are strongly impell'd against the Coats of the Berries that are burst by being trodden; and this red Substance, lodged in the Texture of the Skins, is separated from them by the Heat which penetrates every Part, and is then intermix'd with the Body of the Liquor, in proportion to its Continuance in the Fat; and if we suffer it to remain there for a considerable Time, we may be certain of obtaining a Wine that will be imperfectly red. But as the acid and bitter Fluid of the Stalks is likewise extracted by the same Heat, it is consequently blended with the other Juice, and communicates to it either an acid, or a bitter Flavour, which renders the Wine insupportable, and especially in cold Years.

There are two Expedients for the Prevention of this Inconvenience. One of which is, to carry on the Process of the Vintage in the hottest Sunshine, when the Heat will produce better Effects on the outward Coats of the Grapes than could be imparted to them by the Fat in several Days; and when they are immediately thrown into that Vessel where they very frequently rise to the Edge of it, in less than four and twenty Hours, there is no Danger of the contrasting the Flavour of their Skins.

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The Great Press



A.B. The Base and other Supporters

C.C. The Checks, or Side Beams

D. Great Beams, two in Number, if such can be got as are Strong enough, but there are generally four, or even six of them.

E. The Screw

F. The Nut of the Press

G. The Wheel, w^{ch} by y^e Aid of five or six Men turns y^e Screw

H. The Cage which is an Assemblage of several strong peices of Timber formed into a Square, and lined with Masonry within. This Cage is ten Foot long and four and an half broad on each side. It may either be raised out of or sunk into the pit of Masonry Work from whence it is exhibited as ascending, in the plate, and it weighs above three thousand Pounds, and being suspended in the Manner in which it is Represented at the end of the frame, in a Conjunction with the Screw a Lever of an Immense Force, and makes, at one Vat or Stowage Twenty five Pieces of Wine in less than four Hours Time.

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When the Season proves cold, and the Vintage cannot be transacted in a favourable Sun-shine, it is customary to employ wooden Forks that have three Prongs, and are as many Feet in Length; and when they are work'd round the Tuns, into which the press'd Grapes have been disposed, they fasten upon the Skins that have discharged their Pulp; and when these are drawn out of the Tun, they are mix'd with the other Refuse, that the little Quantity of Juice which remains in the extreme Part of the Stalk of each Berry may not be lost. The Grapes are then thrown into the Fat, and they remain uninjured for several Days, and assume their proper Colour, without contracting the bitter Flavour of the Skins that have been clear'd away for the most Part. I say the most Part, because it will be necessary to let some of them remain, in order to bind the Berries, which, without this Precaution, would be scatter'd all about the Press, after the Extraction of the Juice.

The Wine that has been drawn out of the Fat is afterward intermix'd with the Liquor produced by the two or three first Pressings; but as the Wine which is afforded by the following Pressings, is inferior to the former in its Qualities, it will be proper to dispose it a-part.

The Wine is now made, and distributed into Vessels, which are mark'd according to the Order of the first, second, and third Cuvée, whether white or red; and when it has been suffer'd to ferment in the Air, for some Days, the Number of which is proportion'd to the Maturity of the Grapes, and the Temperature of the Season; the Vessels are stopp'd in such a gentle Manner, as enables the Wine to exhale its most fiery Particles for some Time. After which it is lodged, during the Winter, in an upper Cellar, from whence it is removed into lower Vaults, at the Return of the first Heats, and is suffered to continue there no longer than the Close of Autumn.

Wine of the first Year is usually lodged in new Vessels, from whence it should always be transfused into some other Vessel that has contained Wine of the same Species; and this is an essential Circumstance with Respect to White-Wine, which would easily be stained, by passing into a Vessel, that has formerly been appropriated to Wine of a different Nature; and it will be apt to contract a Flavour of

the Wood, if we pour it into a Vessel that has never been used before.

It has been a prevailing Opinion, though without the least Foundation, that Wine is best preserved on its Lees; for it is certain, that nothing can be more injurious to it than Lees and Air. If the *Champenois* transfuse their Wine into different Vessels twelve Times in four Years, they always choose such as are perfectly clean, with a View, undoubtedly, to prevent their Wine from growing vapid; and they usually burn a little Match of Sulphur, half an Inch in Length and Breadth, in the Vessel they empty, that it may be filled with the Odour, in Proportion to the Evacuation, and may likewise receive a Steam of Spirits capable of promoting the natural Fire, and bright Complexion of the Liquor.

As the Goodness and Duration of Wine depends, in a peculiar Manner, on the Precautions that are taken to refine it from its Lees, much Attention has been employed to find out proper Expedients for its Clarification. The first of these consists in drawing off the Wine, the second in glewing it.

The former of these Operations is performed by drawing off the Wine from its Lees into another clean Vessel, by the Aid of a leathern Pipe and a Pair of Bellows. A Tube of Wood is fasten'd on one of the Extremities of the Pipe, and this is inserted into the lower Part of the Vessel that is intended to be filled; the other Extremity ends in another Tube of the same Nature, and is fixed in a large Fountain, at the Bottom of the Vessel that is to be emptied. When the Fountain is opened, the Wine flows out of one Vessel into another, till the Surfaces of Liquor in both have acquired an equal Level; after which, the Nozzle of a large Bellows is inserted into the upper Vent of the Vessel which is to be emptied, and the Air, which is then forced into it by the repeated Efforts of the Bellows, creates an equal Pressure on the Surface of the Wine, and impels it into the other Vessel, without occasioning the least Disorder.

The Operation of glewing the Wine is performed by pouring into each Vessel a Pint of Liquor, wherein a Lump of Fish-Glew, sixty or seventy Grains in Weight has been steeped and diluted for the Space of four Days.

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This glewy Substance, which the *Dutch* import among us from *Archangel*, ought to be very clear and transparent. We usually beat it with a wooden Hammer, in order to break it into Shivers, and that it may dissolve, with less Difficulty, in a little Wine and River-Water, which last is more penetrating than Spring-Water. A very small Quantity of Wine is added from Time to Time, and the Whole is frequently work'd about with the Hand; after which it is pass'd through a Linnen Strainer of a moderate Fineness; and they then pour as much of this Intermixture as will fill three large Glasses, or a Pint, into the Cask, and draw off two or three Bottles of the Liquor. This Glew is blended with the Wine, by being stirred with a bent Stick, which causes the viscous Substance to diffuse itself over the Surface like a Net, and when a moderate Quantity of Air has been admitted into the Cask through a Vent, the Glew will sink to the Bottom, and draw along with it the superfluous Oil, and generally the whole Mass of Impurities that float in the Vessel, and instead of vitiating the Wine, in any Instance whatever, it gives all its good Qualities their full Play.

Wines are drawn off from their Lees in some of the first Days of *January*, or when the Frost has begun to clarify them in a natural Manner. The drawing off is repeated at the End of fifteen Days; and if the Wines are grey, they ought to be glew'd eight Days before they are bottled.

If the Wine be drawn off towards the End of *March*, when the Sap begins to rise in the Vine, it will froth to such a Degree, as to whiten like Milk, to the very Bottom of the Glass, the Moment it is poured out. Wine will sometimes acquire this Quality, if it be drawn off during the Ascent of the Sap in *August*; which makes it evident, that the Froth is occasioned by the Operation of the Air and Sap, which then act with Vigour in the Wood of the Vine, and likewise in the Liquor it produced. This violent Ebullition, which is so agreeable to some Persons, is thought, by *Connoisseurs*, to be inconsistent with the Goodness of the Wine, since the greenest may be made to whiten into a Froth; and the most perfect Wines seldom discover this Quality.

The Month of *March* is the usual Season for glewing the most tender Wines, such as those of *Ai*, *Epernai*, *Hautvillers*,

liers, and *Pieri*, whose chief Consumption is in *France*; but this Operation should not be performed on such strong Wines as those of *Sillery*, *Verzenai*, and other Mountain Wines of *Rheims*, till they are twelve Months old; at which Time they are capable of supporting themselves for several Years. These Wines grace the Tables of *London*, *Amsterdam*, *Copenhagen*, and of all the *North*. We are likewise assured that they have passed the Line with Impunity; but I am something incredulous as to that Particular.

When these Wines are bottled off, before they have exhaled their impetuous Particles, they burst a Number of Bottles, and are less perfect in their Qualities. The proper Method of bottling Wine consists in leaving the Space of a Finger's Breadth between the Cork and the Liquor, and in binding the Cork down with Packthread; it will also be proper to seal the Mouths of the Bottles with Wax, to prevent Mistakes and Impositions. The Bottles should likewise be inclined on one Side; because, if they are placed in an upright Position, the Corks will grow dry in a few Months, for want of Moisture, and shrink from their first Dimensions. In consequence of which, a Passage will be opened to the external Air, which will then impart an Acidity to the Wine, and form a white Flower on the Surface, which will be an Evidence of its Corruption.

Red Wines are seldom glewed, and bottled, especially during the first Year; the husky Particles, from which the Wine receives its red Tincture, are separated from Month to Month, and the heaviest are soon precipitated to the Bottom of the Cask. If you glew and bottle red Wine, it will appear perfectly fine; but the first Motion of the Bottle, when two Months are expired, or the Admission of the external Air, when you pour out the two first Glasses, will immediately raise a Cloud from the Bottom, which will deprive the Wine of its bright Colour and agreeable Flavour.

No red Wine should therefore be bottled, but such as is intended to be drank in two Months; otherwise the whole Stock will either be lost, or considerably changed in the third Month, and oftentimes sooner; either because the Bottom of the Bottle is covered with a thick Sediment, which obliges us to rack off the Wine with Loss; or because red Wine of the first Year contracts a disagreeable Tartness in the Bottle; or, lastly, because an oily Substance is engendered

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der'd in the Wine, which is a Defect that is usually remedied by shaking the Bottle; but it may be cured more effectually in the Cask by rolling it about, and by glewing the Wine, or else by keeping it a whole Year.

When the red Wine has precipitated its Sediment at the End of about twelve Months, it may be safely drawn off into Bottles, where it will support itself much better than in the Cask, because the Pores of this are not so contracted as those of the Glafs. The glewing would not be injurious to it, though it would certainly be unnecessary, after the Wine has clarified itself by its own Efforts.

While the Liquor continues in the Cask, its Dissipations ought to be recruited every Month with the best Wine in the Cellar, and, if possible, with that of the same Cuvée. As the Wood that contains it is very porous, the Wine will never comport with any neighbouring Odours, such as those of Cheese, Cyder, Beer, and Perry; for which reason the Cellar ought to be accommodated as much as possible to the Genius of the Wine.

These, my dear *Chevalier*, are the best Methods that can be observed in the Making and Management of Wine, and their Efficacy is justified by the Experience of fifty Years.

Prior. I am surprized when I consider to what Length the Industry of a laborious People may be extended. The *Champenois* have experienced the reverse of that Event, which befel the Inhabitants of the *Campania*. The *Falern*, the *Massic*, and *Formian* Wines, which *Horace* has so frequently celebrated, as the most perfect Productions of *Italy*, were doom'd to a sad Declension within a hundred Years after his Death, by the Misconduct of the Inhabitants, who neglected the right Method of making them, and thought a Profusion of those Liquors preferable to their Perfection*. And though they once were capable of being preserved a great Number of Years, they now share the Fate of most *Italian* Wines, which are so extremely weak, as to be render'd useless at the Return of the hot Season, unless they are boil'd, in order to support them thro' the ensuing Year†. But the Inhabitants of *Champaign* have, by a Series of Industry, and the Regularity of their Methods, not only given a Reputation to their Wines, which were lately so little

* Hist. Nat. lib. xiv. c. 6.

† Andreas Baccius de Vinis Italiæ.

known but have likewise acquired the Art of Preserving their delicate Flavour, much longer than is practicable with the Wines of *Burgundy* and *Guienne*. This is a recent Fact, and it ought to create a generous Emulation in the Proprietors of other Vineyards

Count. I foresaw this Event, and express'd my Sentiments of it in a little *Memorandum*, which I formerly made on the Progress of *Champaign* Wine, when I pass'd through that Province. When *Philip of Valoise* was inaugurated, in the Year 1328, the Inhabitants of *Rheims* furnished, for the Entertainment they prepared for the King and his whole Court, three hundred Pieces of Wine, partly of the Growth of *Beaune* and *St. Pourcain*, and partly of *Rheims*. Each two Pieces of this last Growth cost from six to ten Livres. The Wine of *St. Pourcain* amounted to twelve Livres each Cask, and two Pieces of that of *Beaune* came to twenty eight Livres.

Prior. The Wine of *Rheims* must certainly have been but little known at that Time, or else it was extremely ill made, since its Price was so inferior to that of *Burgundy*.

Count. In the Reign of *Francis I.* and *Henry II.* the Wine of *Rheims* was generally esteemed, and there is a Tradition that *Charles V.* *Francis I.* *Henry VIII.* and *Leo X.* had each of them a Commissioner who resided at *Ai*, to acquire timely Intelligence of the best Growths.

At the Coronation of *Francis II.** that Monarch received a Present of *Burgundy* Wine, which was sold for twenty Livres the two Pieces; at *Rheims*; and likewise of *Rheims* Wine, that cost from fourteen to seventeen and nineteen Livres the two Pieces, so that this latter Wine was dearer at that Time than *Burgundy*. When *Charles IX.* was crown'd†, the *Rheims* Wine that was presented to him cost twenty-eight and thirty Livres the two Pieces; and the Wine of *Lyonnois* was dearer than that of *Rheims*.

At the Inauguration of *Henry III.* ‡ they only presented the Wines of *Rheims*, from fifty-four to seventy-five Livres the two Pieces; and those were the only Growths that were drank at the Coronation of *Lewis XIII.* and they cost a

* September 18. 1559.

† May 15, 1561.

‡ Feb. 13, 1571.

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hundred and seventy-five Livres the two Pieces; but they were advanced to such Perfection when *Lewis XIV.* was crowned *, that all the great Lords were desirous of drinking it; and it has been considerably improved since that Time, particularly with Respect to its Duration.

Prior. This Wine is at last become the only Growth in *France*, that can be ranked in Competition with *Burgundy*.

Count. If we will be determined by the finest Palates, the *Champaign* Wine is much preferable to *Burgundy*.

Prior. It is a sufficient Honour for *Champaign* to be advanced to the same Degree of Estimation with *Burgundy*; and it may very well dispense with the Priority. I always thought *Burgundy* had some Similitude to a solid Understanding, which affects us with lasting Impressions; and that *Champaign* resembled a lively Wit, which glitters more upon the Imagination, but is not always serviceable to its Possessor.

Count. You will pardon me, Sir, if I cannot altogether approve of your Comparison. If you had made the Froth of some *Champaign* Wines, and the Sallies of a sprightly Wit, your Parallel, I should have thought it unexceptionable; and several pleasant Remarks might be made on this Sprightliness without Solidity. But such a *Champaign* Wine as that of *Sillery* unites all the Vigour of *Burgundy* with an agreeable Flavour peculiar to itself. Good Wine may be consider'd in the same Light with true Wit, whose utmost Perfection results from Solidity, in Conjunction with Delicacy.

Prior. I prefer useful Qualities to those that are merely agreeable. *Burgundy* seems to be a more salutary Wine than *Champaign*, and will always be triumphant for that Reason. Its Colour alone declares it to be a Wine of a good Body; and, I must confess, I am apt to be diffident of all dazzling Appearances.

Count. Most People are very willing to believe that this deep Colour, which is so much esteemed in *Burgundy* Wines, is an Indication of their Wholesomeness; but it is certain that this Complexion is likewise observable in the grossest Wines, and it results from an Intermixture of the

* Feb. 1610.

husky Parts of the Grape. Wine will lose its Fineness, in Proportion to the Quantity of those Particles that are blended with it, and will be less qualified for Digestion. The Gout therefore, and the Stone, with which the Inhabitants of Wine-Countries are so frequently afflicted, are Distempers hardly known either at *Rheims*, or on the Banks of the *Marne*, where the Wines are very moderately colour'd.

Let us form a Judgment of Foods and Liquors, agreeably to the plain Laws of Nature. You yourself, Sir, observed very lately, that the Deity, instead of subjecting us to the Uncertainty of Examinations, has enabled us to judge of the Excellence of any particular Nourishment, by the Impressions of Sense. This Rule, which is never fallacious, when our Diet is simple, and free from Intermixtures, decides the Pre-eminence in Favour of the Wine of *Rheims*, and its Scent and Flavour alone are Intimations of its enjoying the most perfect Qualities. But I have another Remark to offer, which is, that Wines may be made almost as white in *Burgundy*, as they are in *Champaign*, tho' not so good; and, on the other Hand, the *Champenois* press a Wine as red as the *Burgundy* Growth, and the Merchants sell it, either as the best Species of *Burgundy*, to the Wine-Connors, who are the first People that are deceived in it; or as red *Champaign*, to the *Connoisseurs*, who prefer it to any other Wine. In a Word, if we may judge of the Merit of Wines by the Price, at which they are sold by the Merchant, we shall certainly assign the Preference to *Champaign*, since the finest Species of this Wine is sold in the Vaults of *Sillery* and *Epernai*, for six, seven, or eight hundred Livres; when the same Quantity of the best *Burgundy* may be purchased for three hundred.

Countess. Let me intreat you, Gentlemen, to leave this Controversy undecided; for we have no Judges, who are qualified to pronounce a definitive Sentence; but if there were really any such, it would be prudent in them to let this Debate always subsist. The equal Pre-ensions that are form'd by these two great Provinces, promote an Emulation which is advantageous to us. The Partisans for *Burgundy* and *Champaign* form two Factions in the State; but their Contests are very entertaining, and their Encounters not at all dangerous. It is very usual to see the Zealots of

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one Party maintaining a Correspondence with those of the other; they frequently associate together without any reserve, and those who were Advocates for *Burgundy*, at the beginning of the Entertainment, are generally reconciled to *Champaign*, before the Appearance of the Dessert.

But let me advise you, Gentlemen, not to be so enchanted with the Attractions of Wine, as to treat other Liquors with Partiality, tho' they may happen to be inferior in Merit. This Part of the Country has, for some Years past, produced a Cyder, which is comparable to that of *Rouen*. It is indeed my favourite Vintage, and I will acquaint you with the Particulars of it, if the Prior will first be pleased to describe to us the manner of making Beer.

Prior. The necessary Ingredients of this Liquor are Water, Barley, Hops, and Yeast. The Water ought to be light and penetrating; and these Beer. Qualities are indicated by its Facility of being work'd into a strong Foam by Soap. If it froths but little, we may conclude it to be harsh, and impregnated with Principles that are foreign to its Nature. The Barley ought to be ground after it has sprouted; and this may be effected by steeping it four and twenty Hours in Water. After which, it is carried to the Cellar, which is called the sprouting Vault, where it remains till each particular Grain has shot forth to the Length of four or five twelfths of an Inch. It is then dried in a cover'd Loft, and upon a Floor that has several Interstices in it, which should be cover'd with large Horse-hair Cloths. The Barley is spread over these, and gradually dried by a Heat, which ascends from an Oven placed beneath.

The sprouted Grains, and likewise those which have not shot forth, for both Kinds are sometimes intermix'd, are afterwards moderately ground, but in such a manner, however, as to disengage the Meal from the Bran.

The necessary Vessels for making Beer, are large Cop-pers, and wooden Mashing-Fats. The former of these are inclosed with a Work of Matonry, and are likewise placed over a Brick-Stove, which has the same Dimensions as the Bottom of the Copper.

The Mashing-Fat should have a real, and a flying or false Bottom. The real or proper Bottom, which is the lowest of the two, descends in a Slant towards the middle,

where there is a round Opening, which is closed up with a Rudder or Tapstaff, whose Length exceeds the Depth of the Fat. The false Bottom is two Inches above the real one, and is composed of Planks, which are raised up, in order to be clean'd; and they have a great Number of small Perforations. On this Bottom, a Surface either of Hops or the threshed Ears of Corn, is spread to the depth of an Inch. The Malt is then pour'd upon this Surface, and the hot Liquor which is pump'd out of the Copper into the Mashing-Fat, descends to the lowest Part of it, through a Pipe inserted between the two Bottoms: After which, it rises gradually through the small Apertures of the false Bottom, and carries whatever Substances it meets to ascend with it, and float on its Surface. It should neither be too hot nor too cold; and its just Degree of Heat is discovered by its Ebullition on the sides of a wooden Peel, which is plunged into the Copper for that Purpose. The Fire is then immediately taken out of the Stove; after which the Liquor is shifted into the Fat, and the Malt is strongly work'd about with Mashing-Poles, in order to blend its Substance with the Liquor; and this is what is properly called Brewing.

The Malt is suffered to remain in the Mashing-Fat, for the Space of an Hour; after which, the Pole, inserted into the Aperture at the Bottom, is raised up, and the Liquor which is then impregnated with the finest and most nutritional Parts of the Malt, flows through the little Openings in the false Bottom, where the Bran and all the grosser Particles are detained, and the Liquor is then convey'd into a Reservatory, through the Aperture in the proper Bottom.

A Quantity of new Liquor is then pour'd into the Mashing-Fat, and work'd about a second and a third Time, with the same Malt, till this has discharged all its remaining Substance. The Quantity of Liquor infused into the Copper and the Fat, at these different Operations, is properly adjusted, and twelve Bushels of Malt are allowed to a Hoghead of Water.

The Liquor thus incorporated with the Substance of the Malt, is shifted from the Reservatory into a Copper, where it is boiled up with Male Hops; eight Pounds and a half of which are allotted to a Hoghead of Liquor. And

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in order to redden the Beer, the whole Quantity is suffer'd to boil for the Space of four and twenty Hours. But if the Intention be to whiten the Drink, it will be sufficient if it only begins to boil. It is then cool'd by being pour'd into Backs, which are shallow Vessels of a great Width and Length. When the Wort becomes luke-warm, it is discharged into another Vessel, and mix'd up with Yeast; a Pail-ful of which is allow'd to every Hogshead of Liquor. This Yeast is the Foam which the Beer discharges out of the Tun, and is preserved in order to ferment a new Wort. When it has been seven Hours in the Vessel, it begins to work, and the Process of this Operation incorporates the Spirit of the Hops with the Substance of the Malt. The Beer is then tun'd, and the Vessels continue open for the Space of two Hours, that all Impurities may be work'd off, and the Tun is fill'd up every four Hours.

The Liquor, whose Process I have been describing, is called double Beer; but if only half the Ingredients I have mentioned be allow'd to a Hogshead of Liquor, the Drink of that Brewing will be Ale; and when no more than a third Part of those Ingredients are used, they will produce small Beer. If a little Point of Coriander be infused, it will have a good Effect on the Beer. The Brewers of *Paris*, who make this Drink in great Perfection, are careful to preserve it in that agreeable Condition, and never thicken it with Honey, or dispirit it with Sugar. They are likewise as cautious not to render it windy and impetuous with the Shavings of Ivory, or with Ginger and other Spices, as is practis'd at *Lisle* and *London*.

Beer acquires its Perfection in Bottles, if it only remains in them for a few Months; but a longer Continuance will cause it to contract an insupportable Bitterness, which ought to be prevented as much as possible.

Beer has been used at all Times, and in all Countries that are destitute of Vines. Cyder is thought to be a modern Invention; and if we discover some Traces of it among the *Jerus**, and other Nations, it must, however, be ac-

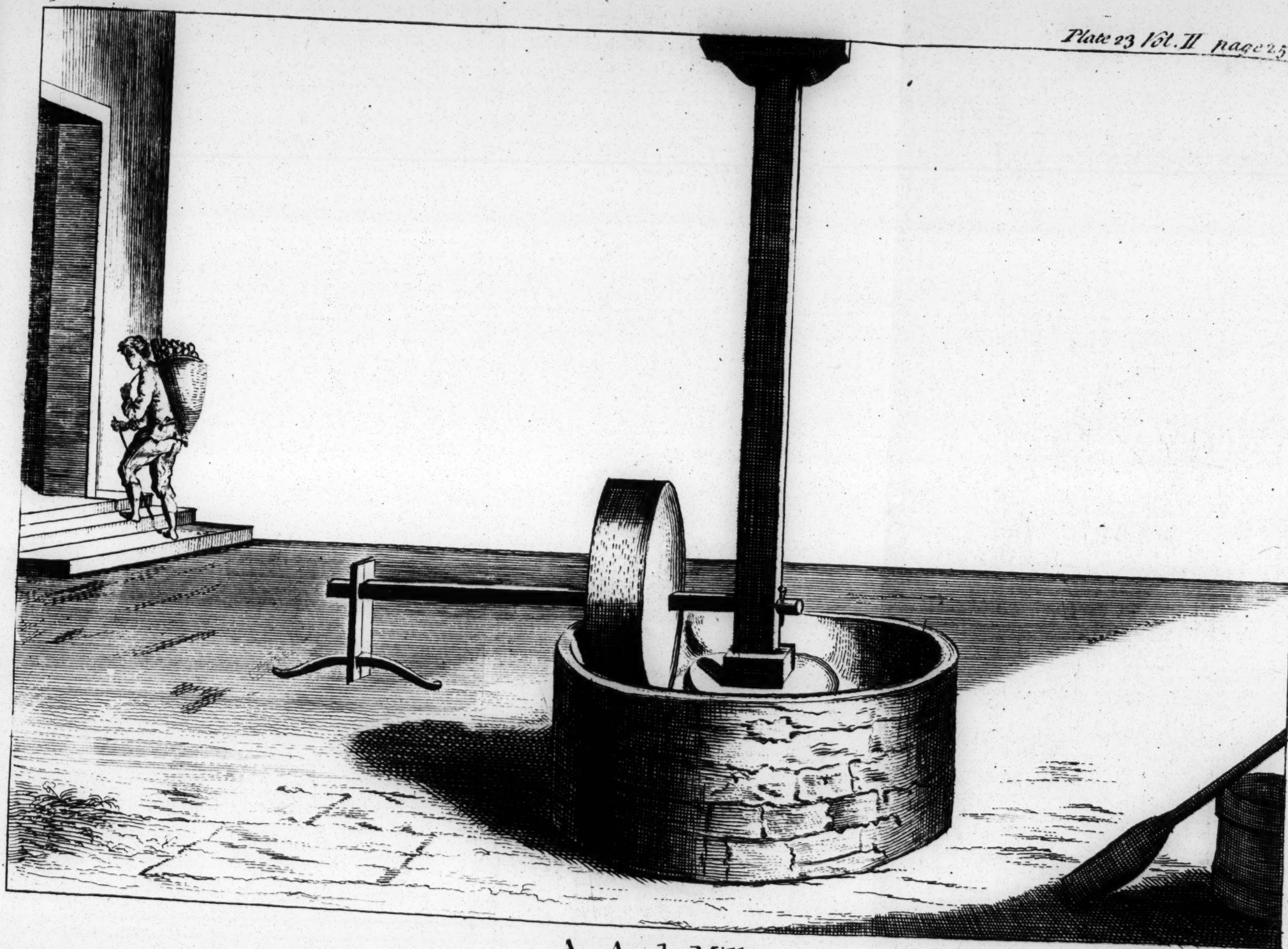
* *Sicera*, *Hebræo* *Sermone* (*Shecar*) omnis potio nominatur quæ inebriare potest, sive illa quæ frumento conficitur, sive pomorum succo. Hieron. Ep. ad Nepot.

The Word *Sicera*, which in the Hebrew Language is express'd by *Shecar*, is applicable to all inebriating Liquors, whether they be made of Corn, or the Juice of Apples.

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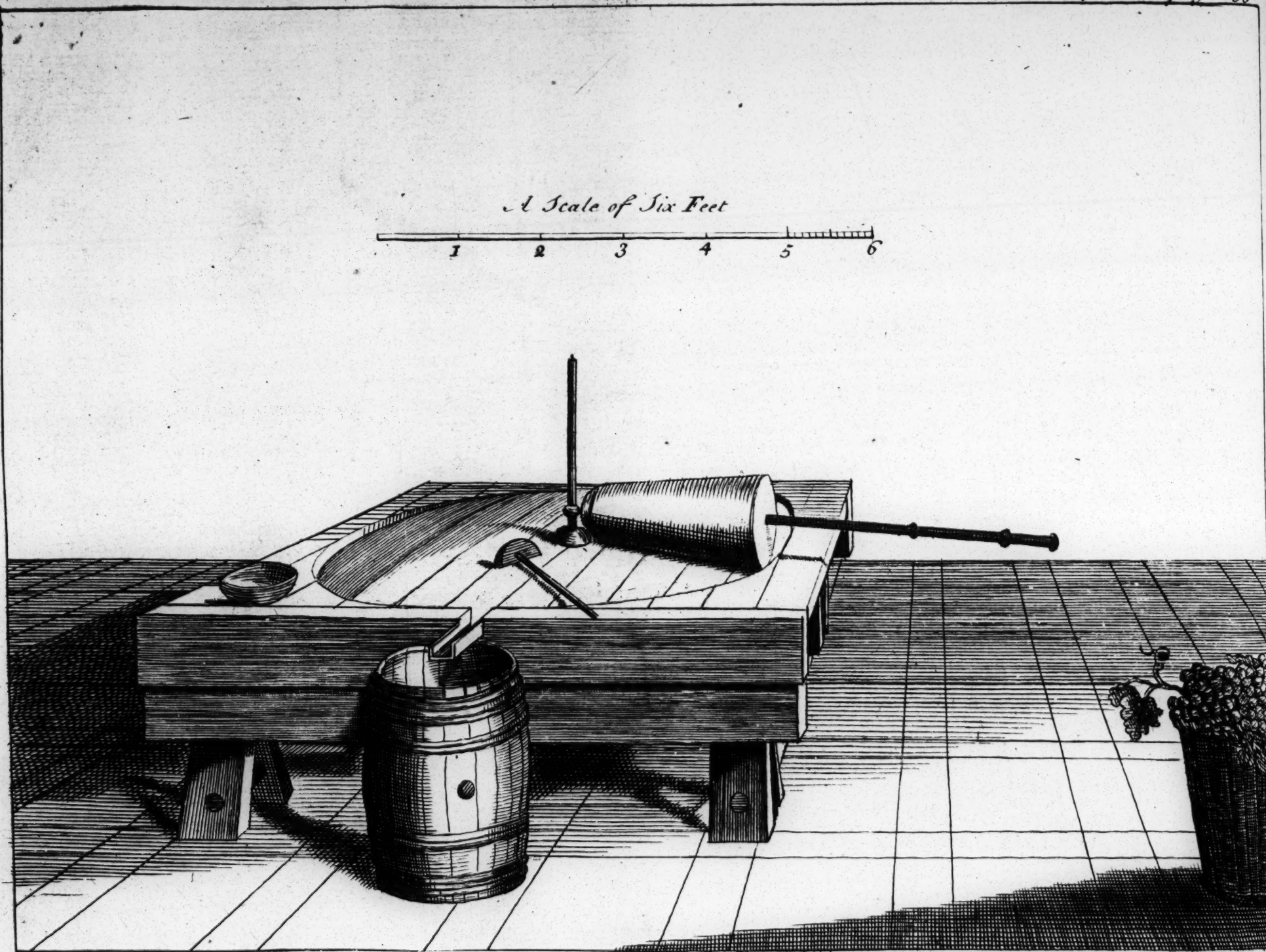
acknowledged, that it was not so universal a Liquor as it is at present; and that it has been only render'd common within the three last Centuries, in *England*, and likewise in *Normandy*, where the old Methods of making it, and which are now useless, may be seen in some Monasteries. The Use of this agreeable and salutary Liquor, has, within the space of twenty Years, been render'd much more extensive, in those of our Provinces that are near the Ocean. But the *Chevalier's* Curiosity to know the Methods of making Cyder ought not to be interrupted by a long History of this Liquor.

Countess. Cyder is the Juice of Apples, but not of such as are esteemed for common Use; as the Reinette, the Calville, and a Variety of other Species. It is produced from the most savage Classes of this Fruit, and from those whose Flavour is least agreeable to the Palate. Some of these wild Apples are sweet, others very acid. These latter produce very bad Cyder; and the best Method will be either to root up the Plant, or else to improve it by Grafting. The sweet Apples are the only proper Fruits for affording an agreeable Cyder, which neither offends the Palate, nor intoxicates the Head. The Apples should be gather'd from the Tree; but they may be shaken down with Poles, when the luxuriant Growth of a plentiful Year would render the other Method too tedious and expensive. They are afterwards exposed in Heaps, to the open Air, till they have acquired their due Perfection; after which, they are carried into the Conservatory, where each Species is ranged according to its particular degree of Maturity; and in order to be press'd, at different Times, till the Winter be far advanced. The sound Fruits are first bruised in a large circular Trough, under two wooden Wheels, placed in an upright Position, and whose Axle-Trees are fasten'd to a turning Beam, which is drawn round by a Horse. Those who are unprovided with an Engine of this Nature, may bruise the Apples with Pettles. When this Operation is compleated, the pulpy Substance is convey'd to a Press, whose Structure corresponds with that of the Wine-Press. And to prevent this bruited Mass of Apples from being scatter'd from the Press, Care is taken to dispose it into a square Bed four or five Inches thick; this is afterwards cover'd with a Surface of Straw, which ought



An Apple Mill.

J. Mynde sc.



A Press to squeeze Apples or make Verjuice.

L. Mynde sculpit

to have a small Projection over the Sides of the Heap. A second Square of the crush'd Fruit is rais'd upon this Spread of Straw; another Lay of which must cover the new Square; and this Disposition is alternately formed, as long as is judg'd convenient. Instead of Straw, we make use of large Hair-Cloths, which are more adapted to contain the Marc. The great Beams of the Press are then lower'd with the Wheel, and the Juice flows into a Fat that is sunk in the Earth; from whence it is afterwards shifted into Vessels, where it is suffer'd to ferment for the Space of fifteen Days, or three Weeks, and it is then stopp'd up.

Count. There is another small Press, which prevent the Trouble of ranging the several Beds of Fruit and Straw. It is call'd a Box-Press from its Similitude to a Box; and is calculated to contain the several Fruits that are to be press'd, whether they be Apples, Pears, or Grapes. One End of the Box terminates in a moveable Beam, which is work'd by a Wheel and a Screw, and the Juice flows through the Cavities that open in the Side.

Countess. If we intend to drink Cyder in its Perfection, and would have it flower in the Glass, we must wait till it has been properly prepared in the Fat; and when it begins to be agreeable to the Palate, it must be g'lew'd like Wine, and may then be drawn off in Bottles, which will preserve it much better, and for a longer Space of Time than Casks. There is not much Difficulty in the Vintage of this Liquor, and it pleases me the more for that Reason.

Chevalier. Since the rest of the Company have furnish'd their Quota's of excellent Liquors, I ought, in Justice, to make a Tender of mine; and indeed it has two Qualities that are greatly to be valued. It is very wholesome, and occasions little or no Expence. This Liquor is extract'd from Juniper-Berries, and it may be call'd the Poor's Wine, though it is likewise used by Persons of very affluent Fortunes. It is made with six Bushels of Berries, and three or four Handfuls of Wormwood. These Ingredients must be infused in eight Gallons and four Quarts of Water, for the Space of a Month; after which we may let the Marc sink to the Bottom, and rack off the Liquor, which is rende'd much better and more palatable by Age. It was either invented, or brought to Perfection, by the Count de Moret, Son of Henry IV. and whose

Juniper-Wine,
or Geneva.

whose Name has occurred to me in History. This Prince, who was thought to have been killed in the Battle of *Casselnaudari*, past the Remainder of a very long Life in a private Retreat, where he lived in a very devout Manner, with a few Solitaries, and always enjoy'd a perfect State of Health, which he acquired by the Labour of his Hands, and the Use of this Liquor.

Prior. All Nations, who have been denied the Use of Wine, either by Nature, or their Laws, have invented different Liquors: The *Indians* extract an excellent Juice from the Palm-Tree, but it loses its Goodness in a few Days. The *Turks* have some particular Pastes, which they dilute with Water, in order to render this Fluid more agreeable or nutrimental. The *Americans* dissolve the Paste of their Cocos in Water. The *Lithuanians*, the *Poles*, and the *Muscovites*, who have Plenty of Honey, steep it in Water, which they boil to a moderate Degree, and then suffer the Mixture to ferment in the Sun, by which Means it becomes a very strong and pleasing Liquor, and is commonly known by the Name of Mead. The *English* extract Liquors from Raspberries, Gooseberries, Strawberries, and a Variety of other Fruits; but their favourite Liquor is Punch, which is a Composition of two thirds of Brandy, and one of common Water; to which they add a proper Quantity of Sugar, Cinamon, powder'd Cloves, and a Slice of toasted Bread; Milk likewise, and the Yolks of Eggs, are frequently intermixed to thicken the Whole*.

Chevalier. Brandy and Milk! This, surely, is a strange Composition.

Prior. We reproach them for their Mixture of Liquors, and they are as severe upon us for the Diversity of our Ragoûts.

Count. What makes me most diffident of the Wholesomeness of Punch, and much more of other strong Liquors, is the Intermixture of Brandy, which is their constant Basis, and a very pernicious one, in my Opinion.

* The Author might have informed himself better, in what Manner Punch is made in *England*; but this is not the first Time that preposterous Customs have been ascribed to our Nation by *French* Fancifulness.

Chevalier.

Chevalier. Brandy is however extracted from the strongest, as well as the finest Parts of Wine; what injurious Consequence, therefore, can result from the Use of it?

Count. The Wine fetters these strong and active Spirits; and they are likewise corrected by the other Principles, which accompany them. Those Persons who are acquainted with the Structure of our Bodies, and the Force of these Principles, have been industrious to distil and blend them together, in such a Proportion as is best adapted to our Organs. But when the most active Parts of Wine are extracted by the Violence of Fire, which separates them from the other Particles that would moderate their Impetuosity; they must be constantly productive of Disorders and Inflammatory Effects. They may indeed be serviceable, when used in a medicinal Manner, like some other chymical Distillations; but a frequent Recourse to these violent Liquors, tho' the Quantity be never so inconsiderable, must infallibly vitiate the Blood, and impair the Organs themselves. And this Observation has been justified by too many fatal Instances.

W O O D S.

D I A L O G U E X V.

The PRIOR. The CHEVALIER.

Chevalier. **D**ON'T you observe, Sir, that, besides the agreeable Freshness we experience, when we enter these Woods, we are likewise sensible of a pleasing Emotion, which I am unable to describe; and whose Cause you undoubtedly can assign much better than myself?

Prior. The Softenings, which the Light receives from the branching Verdure; the Beauty and Height of these lofty Trees, and the solemn Silence that reigns all around us, exhibit an Air of Novelty and Grandeur, which immediately strikes the Imagination, and inspires it with a contemplative Sedateness.

Chevalier. This is certainly the properest Scene in the World for a Conversation on the History of Nature; but I am apt to think the Forest itself can hardly furnish us with any thing extremely curious. The same Objects are unfolded to our View from one end to the other, and the Eye can only wander over a Profusion of Leaves and Wood.

Prior. Let us endeavour to consider this Thicket in all the different Forms it is capable of assuming, and in all the various Uses that can be derived from it. It may, perhaps, furnish us, like other Parts of Nature, with new Motives to
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Admiration and Gratitude. We will begin with the tall Stems which this Forest rears into the Air ; and let us compare them with the humble Plants that are cultivated in the Plain below. How different is this Garden from ours ! We think these latter very spacious, when they contain a few Acres of Earth ; but this extends itself over a whole Country. Its Productions are without Number, and their Dimensions are almost immeasurable ; and yet all these thriving Stocks rise at the Distance of a few Fathoms from each other ; and are frequently separated by the scanty Space of four or five Feet. Who form'd the Plan of these mighty Works, and conducted them to their ultimate Perfection ? What Gardener charged himself with the Plantation of this amazing Number of Trees ? Who had competent Abilities for pruning their redundant Growths, and affording them their stated Refreshments of Water ? My Curiosity equally prompts me to enquire into the Origin of this immense Garden, and the Uses to which it was ordained.

Man is not the Being to whom the Plantation and Culture of Forests was consign'd. Corn, indeed, and Legumes, together with the Vine, and a few low Trees, have been subjected to his Industry, in order to exercise and employ him in a useful Manner. The Plants he cultivates are proportioned to the Minuteness of his Stature. Their Ascent is very moderate, and they may be accessible to his Hand that forms them. But the Deity has reserved the Trees of the Forest to himself ; and tho' he also gives Existence and Growth to every other Plant, the Forests alone may be considered as his Garden. They have been planted by no Hand but his, and he is the only Being who affords them their Cultivation. He diffuses their minute Seeds over the Surface of a whole Country. His wise Precaution has furnish'd the Generality of them with Wings, that they may be wafted with more Facility, by the Winds, which conduct them to various Soils. We shall be sufficiently convinced of these Truths, if we cast our Eyes to the Seed of a Linden-Tree, a Maple, or an Elm. He alone draws from them those vast Bodies which rise into the Air with such an Aspect of Majesty ; none but himself fastens them with so much Strength in their several Situations ; and supports them in that Disposition through a Series of many Ages, in Opposition to the Winds, which he diffuses over the Earth.

Earth. He alone selects genial Dews and ample Rains, from his Treasures, to array his Trees with an annual Ver-
dure, and to impart a Species of Immortality to their Growth. We may wander, even now, through those Woods where the *Druids* gather'd the Mistletoe of the Oak, amidst the Solemnity of their Superstitions, above two thousand Years ago. We can still behold the Forest of *Ardennes*, which cover'd a great Part of *Belgic Gaul*, many Ages before the Birth of *Julius Cæsar*. The Black and the *Bohemian* Forests are the Remains of the *Hercynian*, which formerly stretch'd over all *Germany*, and was extended as far as *Transylvania*.

Chevalier. It is certain that these vast Forests were not planted by Men; for we are only skilful in cutting them down. Their Original, however, is easily discover'd, since they are produced by the Earth itself. If we neglect to cultivate any particular Tract of Land, it will naturally shoot up a Growth of Wood.

Prior. The Idea we form of the Earth's Fecundity is very confused, and it not only dishonours Truth itself, but weakens our Gratitude, by allowing the Ground that Prolifickness to which it has no Pretensions. We have already observed, that all the Productions of the Earth are organized Bodies, which she has no Power to fashion, and which have been formed from the Beginning, by a Determination of the Deity, altogether as express as that by which he created the Earth itself. A Seed which reproduces any particular Plant, is, itself, a Plant in Miniature, which bears a perfect Similitude to the preceding Tree, and is only disengaged from its Covering, and gradually enlarged in its Growth. I may add too, that the Earth is not only incapable of forming Plants, but is likewise unqualified to nourish them. She is appointed to receive and distribute the nutrimental Juices they need, and may, in that Sense, be called fertil; but she neither furnishes those Juices from any Substance of her own, nor imparts any Increase of Growth. The Earth, of itself, is a dry and barren Mass of dull Matter, which receives from other Sources the Aliment and Juices it communicates to Animals, and whatever else is sustained by their nutritious Qualities.

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The repeated Supplies of Leaves, Flowers and Seeds with which the Trees are annually array'd, and which they afterwards cast off; together with the perpetual Diffusions of the Sap, whose Freshness we experience, not only in Forests, but even in a Timber-Yard, and for a considerable Time after the Wood has been felled; are such Consumptions as would exhaust the Earth in Time, were they furnished from her own Substance. If the repeated Loppings of Thickets and Forests were to be all thrown together for some Ages, they would form Piles as high as the Mountains themselves on which they were cut; and if the Earth either produced the Woods, or nourished them from her own Bowels, these would be all consumed by Degrees. The Mountains, by being constantly undermined, and wasted by the Process of so many deep Roots, would be insensibly diminish'd. Their Evacuations would sink them from Age to Age, and the smaller Eminencies would have been laid level with the Plains long ago.

The Earth, which nourishes our Forests, sustains no Diffipation of its Substance, but continues undiminished, like the Earth in Boxes of Orange-Trees. Let two hundred Pounds of Earth be deposited in a Box, and let a Tree be then planted in it; this Mass of Earth, if it be weigh'd at the End of three or four Years, will prove altogether as heavy, as when it was first placed in the Box.

Chevalier. And yet the Orange-Tree has acquired considerable Accessions of Growth; and has likewise produced Leaves and Fruit two or three Times. These have a Weight proportionable to their Substance; from whence then do they receive it?

Prior. Since the Earth continues as heavy as it was at first, the Materials of these Growths must be imparted from other Sources. The Soil itself only contains the Plant, and conducts to it the Juices that nourish it. These mighty Forests, therefore, are planted by a Power that is always active, and by a Wisdom that never ceases to be propitious, and by which they are supported without our Aid. This omniscient Power perpetually impregnates the Air and the Earth with Salts and Water, Oil and Fire; together with all the Principles, either simple or intermix'd, that are necessary to each particular Species.

Chevalier.

Chevalier. I now can comprehend in what Sense the Earth may be said to be prolific. But the Deity, from whom this Fertility springs, would certainly have acted with more Beneficence to Man, had he form'd large Forests of Fruit-Trees, instead of multiplying such vast Growths of barren Woods.

Prior. The Trees of the Forest are called barren only in Comparison with those whose Seeds are cover'd with a Substance that preserves them, and proves nutrimental to us; but they are so far from being justly chargeable with Sterility, that, on the contrary, they furnish us with inexhaustible Sources of Riches and Accommodations, which are much superior to those we derive from Fruit-Trees.

Chevalier. Forests may afford us a Shade for our Refreshment in Summer, and Wood to warm us in Winter; but I am not conscious of their procuring us any other Advantages.

Prior. They are useful in all Parts. Let us first enquire into the Functions of their Leaves, and then consider the Nature of their Seeds; after which we will descend to their Barks and Roots, and our Examination shall conclude with the particular Uses to which their Wood is applicable.

The Leaves are very useful on the Tree, and likewise continue to be so after their Fall. While they remain on the Tree, they exhibit one of the greatest Beauties in all Nature to our View. The Verdure of our Fruit-Trees is infinitely inferior to that of Forests. This accommodates Mankind, and various Kinds of Animals, with a Freshness equally salutary and delicious. It likewise imparts Life to the Trees themselves, since, while they extend their Roots into the Earth, that their Fibres may extract the Juices it contains, they likewise expand their Branches in o the Air, that the Spiracles of their Leaves may imbibe the spirituous and warm Particles, which insinuate themselves into those Apertures, and invigorate the Course of the Sap to the Extremities of the Roots; and perhaps supply the Trees with the greatest Part of the Sap itself; since the Probability of this Fact seems to be sufficiently established by the speedy Decay of the Generality of those Trees that want

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Air, especially on their upper Parts. For when they no longer receive any new Supplies of Juice from an Influx of Air, they soon languish and die, for want of that part of their Nourishment, which may possibly be most necessary to their Vegetation.

When the Air is so compress'd by Cold, as to be incapable of exerting its Elasticity in the Sap, this Fluid begins to be inactive; and if its Progress be not entirely discontinued, it, at least, flows in a very languid manner. The Leaves, which no longer dissipate their Juices, by such a Transpiration as was performed in the Summer Season, begin to thicken, and are at last discharged from the Tree by their own Weight, or the least Gale of Wind, which then whirls them away. They cover the Earth, and rot around the Stems of the Trees, or under the Feet of Animals. One would imagine them to be then lost, and entirely useless; instead of which, the Earth is enrich'd by their Putrefaction. The Rain divests them of the remaining Salts, and these are conducted by the Fluid to the Roots, where they are absorbed by the extended Fibres. This Surface of decay'd Leaves preserves the Roots of young Plants, and defends them from the injurious Effects of cold Winds. It likewise covers all the Seeds, and surrounds them with such a genial Humidity, as enables them to shoot forth as effectually as if they had been planted in the most kindly Soil, and were cultivated by the Labours of Man. The Peasants burn great Heaps of these Leaves in the Winter-Season, and reduce them to Ashes that are proper for opening strong and impliant Soils.

The Seeds, which seem to be as much the Sport of the Winds as the Leaves, are only dispersed more effectually, in order to multiply the Species; and when they have render'd us the important Service of perpetuating our Forests, they are useful to us in many other Particulars.

The Acorns of all the different Kinds of Oaks, the Mast of the Beech, and a Variety of other Seeds, are the favourite Food of Swine and wild Boars. The Berries of innumerable Trees and Bushes dispense a seasonable Nourishment to the generality of little Birds; and though we cultivate in our Gardens the Trees which afford the *Cornel* Berry,

The Fall of
the Leaves.

The Usefulness
of the Seeds.

Berry, the Nut, and the Filberd; the Forests are always productive of the Cornil, the Nur, and the Hazel Trees. The Walnut Tree, which delights in a free Air, is not adapted to a Garden, where it injures all the Plants around it; nor to a Wood, which choaks its natural Growth; it is therefore suffer'd to grow in the open Country, where it requires as little Culture as the Forest-Trees; but its Productions are preferable to most Fruits, as well with respect to the Table, as to the Oil extracted from them, and which accommodates the Poor with a frugal Light, and bestows Immortality on the Works of Painters, whose Colours it strengthens, and blends together in an admirable manner.

I shall not take any Notice of Chesnuts; sweet and bitter Almonds; or a Number of other Nuts that are very common among us; and shall only enumerate the principal Species of foreign Nuts, which are in greatest Estimation at present.

Of this Class is the Nutmeg, which is exceedingly valued for its salutary Heat, and its aromatic Odour. It is the Seed of a Tree which grows in the Island of *Banda*, and some others of the Eastern Ocean, where the *Dutch* have monopolized the Spices, either by right of Conquest, or by paying to the Inhabitants such Pensions as are more beneficial to them than the Produce of their own Trees. The Nut is at first cover'd like our Nuts, with a thick Coat, which gradually opens of itself; and afterwards with a kind of Shell, which enfolds the whole Nut. This Shell, which is called Mace, is much esteemed for its excellent Scent and medicinal Qualities. The Nut is sent over to us, either in a Confection, or dried, and divested of its Mace; and it is used as an Ingredient in Seasonings, as well as in Prescriptions of Physicians.

Coffee, whose good Effects are universally esteemed, is the Berry of a small Tree, which formerly was known in no Country but the Kingdom of *Yaman* in *Arabia*; and as the Seeds which are found in the Heart of the Fruit, are qualified to clear the Head, and relieve it from Sleepiness, when they have been infused in Water; the *Arabian* Monks are said to have been the first who made use of them, that they might be enabled to perform their nocturnal Devotions without

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without Drowsiness. This artificial Drink came easily into Repute among those Nations that frequently invent new Liquors to regale them instead of Wine, which the Law of *Mohammed* has prohibited among them. Some *Turkish* Doctors at first opposed the Introduction of this Liquor, and declared it to be too spirituous, and almost as inebriating as Wine itself; but the *Musti* soon removed this Difficulty, and Coffee was vindicated from the Imputation of any vinous Quality, and was allowed to be a lawful Liquor. It was then publicly drank in *Constantinople* and *Cairo*, from whence it has been transmitted to us about sixty Years ago.

Chevalier. I am surprised that we don't sow this useful and popular Seed, in our *Southern* Provinces at least.

Prior. It will not succeed either there, or in any other Part of the Kingdom, because it ought to be sown immediately after it has been gathered. It was formerly imagined, and several People are still persuaded, that the *Arabs* of *Mokha* drench'd the Berries in a Brine, or some lixivious Liquor, before their Exportation; to prevent their being sown with any Success, and that they themselves might not be deprived of the Profits of this Plant, by its Propagation in other Regions. But since some of the Trees have been transported to the Isle of *Bourbon**, as well as to *Batavia* and *Holland*; and likewise from *Holland* to *France*, where they have been cultivated in a successful Manner; we have been convinced, that the Seeds of this Plant will never prosper, if their Plantation be delay'd ever so little. Those that were gather'd at *Amsterdam*, and sent to *Paris*, were unsuccessful; but all such as were gather'd either at *Amsterdam*, or in the King's Garden, from little Trees, which had been planted there, proved very thriving, when Care was taken to set them the Moment they were gather'd.

The Coffee Tree may be seen in the Royal Garden, where its Height does not exceed five or six Feet, and its Stem is about an Inch in Thickness; but it rises to the Height of forty Feet in *Arabia* and *Batavia*, though its Thickness seldom exceeds five Inches. It is always cover'd

* It lies to the East of *Madagascar*.

with Flowers and Fruit. It shoots out, through the whole Length of its Stem, a Growth of Branches which are always exactly opposite to each other, and in different Pairs, one of which crosses the other. The Leaves, which resemble those of the common Laurel, are also ranged in Couplets; at the Bottom of these spring the fragrant Flower-Branches, which have a near Similitude to those of the Jasmín, and have five Chives in their Center. The Berry or Fruit which appears after these is not much unlike a hard Cherry, in its Colour and Shape. The Flesh, which is not disagreeable, serves as a Tegument to a Couple of Shells, each of which contains a Seed. One of these is frequently abortive, because its due Fecundity is seldom imparted to it in the Flower-Season; the other grows stronger, and receives a better Nourishment.

The Use of Coffee. Some Persons infuse all the Fruit, after it has been dried; others choose the Shells; but the best and most usual Method is only to infuse the Berries, when they have been moderately roasted in a Vessel of varnished Earth, which is always preferable to one of Brass or Iron. The Berries are judged to be sufficiently roasted, when they begin to assume a Violet Hue, and discharge an Oil of a very agreeable Scent. The Coffee which is newly ground, has always the most Virtue; and when it is infused in boiling Water, it loses fewer of its volatile Parts, than when it is immediately poured into cold Water. When the Heat of the Fire raises the Powder to the Edge of the Coffee-Pot, it is precipitated with a few Drops of cold Water.

It is the Opinion of our best and most experienced Physicians, that Coffee promotes Digestion, and corrects sharp Humours, when it is drank after Meals. Several Persons prefer it, in the Morning, for its Dissipation of Vapours and other Disorders of the Head, and for imparting a Liveliness to the Spirits. Every one knows how much the Repose of the Night is hazarded by the repeated Use of this Liquor in the same Day; and what Precautions are taken to correct the bitter Flavours of its Salts with Milk, and Sugar, and Bread. Sugar is a constant Ingredient; Bread is proper, when the Liquor is drank in a Morning; and Milk is necessary for thin Constitutions, which would otherwise be injured by the Salts.

Chevalier.

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Chevalier. Is there any particular Choice to be made in the Purchase of Coffee?

Prior. The small and greenish Berries, and especially those which dispense an agreeable Scent, and are transmitted to us from *Cairo*, by the Way of *Marfeilles*, are much more esteemed than the large and inodorous Species, which is transported to us over the Ocean.

The Cacao, which affords the principal Chocolate. Ingredient of Chocolate, is likewise a Seed.

They are ranged like Kernels, or Almonds, in a kind of Cucumber or Melon, which grows on a small Tree in *America*. Thirty-five, and sometimes more, of these Almonds, are found together; and when they have been divested of their Shells by Fire, and are afterwards peel'd, and roasted in a Bason, before a moderate Fire, they are pounded in a very hot Mortar. The *Americans* bruise them with an Iron Cylinder, on a flat Stone made very hot; they are then form'd into a Paste, which is afterwards boil'd with Sugar; and this is call'd plain Chocolate. But if it is to be enrich'd with a fine Odour, four Pounds of this Paste, and three of powder'd Sugar, are work'd together in a Mortar, or on some Stone. When the Whole is well intermix'd, they add to it a Powder composed of the Seeds of eighteen Shells of Vanilla, a Dram and an half of Cinnamon, and eight Cloves; some People add two Grains of Ambergrease; others one Grain of Musk; and perhaps the least Quantity of this will always be too much. Pepper and Ginger are more especially rejected, and this Composition is diversified according to the Taste of the different Nations and particular Persons. The whole Intermixture is compleated as soon as possible, to prevent too great an Evaporation of the volatile Parts. It is then work'd into Squares, which are either eaten in that Form, or else they are dissolved in Water, and then drank.

Chevalier. How is this Liquor prepared?

Prior. Four Ounces of new Chocolate, and a less Quantity of powder'd Sugar, are infused in a Pint of Water that begins to boil. The Chocolate-Pot should be cover'd, and suffer'd to boil for the space of a quarter of an Hour; after which, the Liquor must be mill'd with an Instrument form'd for that Purpose, and which passes through an Aperture in the Lid. The Pot is then taken from the Fire, and

when it has stood for a quarter of an Hour, the Liquor is mill'd a-new, in order to froth it; after which, it is poured into Cups, and drank as hot as possible. A little Chocolate is said to be as nutrimental as a much larger Quantity of other Food, and it has the Reputation of promoting the proper Functions of the Stomach.

Chevalier. I have heard frequent mention of Cocoa Nuts, which should certainly be distinguished from Cacao.

Prior. They are entirely different from each other. *India, America,* and other Countries abound with Forests of Cocoa-Trees, which are a Species of large Palms, that produce Nuts bigger than the Head of a Man. It would be difficult to determine whether the Nut or the Tree itself be most beneficial to the Inhabitants. The Wood is fit for building Houses and Ships, the Leaves, which are very broad and substantial, serve as a Covering to the Roof; they are likewise manufactured into a Parchment, proper for Writing; and are also form'd into Sails for Vessels. The Branches, when they are preserved, will discharge a Liquor as agreeable as Wine, and which may either be preserved by boiling, or else converted into Vinegar. The inward Surface of the Nutshell produces a very fine woolly Substance, fit for making Ropes, and for calking the least Appertures in Ships. The Shell itself is made into Bowels, Spoons, and all sorts of Utensils. The Substance of the Nut is an excellent Food, and it affords an Oil equally good either for the Table or the Lamp. It likewise contains from two to four Pints of a delicious Water, which is the usual Drink of the Inhabitants, and their Children.

Chevalier. Can you favour me, Sir, with some Account of *Cashoo*, which is employ'd as a Remedy for Disorders in the Throat, and other Indispositions? It sometimes resembles a small Seed; and at others, one would be apt to take it for some Species of Earth.

Prior. It is nothing more than a dried Paste, which is sent over to us either in a large Mass, or in small Grains, which have been scented with some Perfume. But this Paste is the Substance of a Nut which is gathered from a Palm-Tree called *Arec*. It is customary to extract from it a Juice or Sediment which gradually thickens, and the Physicians recommend it as a useful Remedy in some Disorders.

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It would be tedious to enter upon a Detail of the various Aids Physic daily borrows from the Seeds of domestic and foreign Plants; we will therefore take a short Survey of the Use to which the Barks are appropriated.

The Barks of Trees are those Parts of them which are most impregnated with Salts and Oils; because the Sap and oleaginous Particles, which ascend through the long Fibres of the Wood, are returned back through the Bark. This Profusion of Salts, and other Principles of Vegetation, is manifested by the Goodness of the Bark-Ashes, which are always preferable to those of the peel'd Wood; and the powder'd Bark of Oaks, and other Trees, is render'd so very useful as it now proves in tanning Leather, by the copious Salts and Oils, with which it abounds. When a Skin has been frequently powder'd over with this Bark, it will be strengthened, and likewise render'd pliant. The Salt, which penetrates into every Part, fortifies and preserves it from Corruption, and the Oil which pervades the whole Substance of the Skin, causes it to become supple, and accommodates it to all the Motions of the Body it afterwards arrays. The Oil likewise renders it impenetrable to the Water.

The Usefulness
of the Bark of
Trees.

When this Tanner's Bark has been employ'd in manufacturing Leather for our Use, it is not yet divested of all its good Qualities, but is form'd into Clods, or small Turfs, which, when they have been well dried, furnish the Poor with Fuel at little or no Expence; but as the Ashes of these Turfs have no longer an Intermixture of Salts, they are then entirely useless.

There are other Barks of Trees, which form a considerable Branch of Commerce; some of them are aromatic, as the Bark of the Cinnamon Tree in the Island of *Ceylon*. Others are medicinal, as the *Peruvian* Bark, which is call'd *Quinquina*, and seldom fails to cure intermitting Fevers, provided it be neither old nor insipid. Some are capable of being spun as the Bark of Hemp, and that of some particular Trees in *India*, from which the Natives draw long Filaments, that are afterwards manufactured into Stuffs, with an Intermixture of Silk and Cotton.

Chevalier. Two Days ago the Countess was presented with a Box that contained two Pincushions, a Handkerchief,

chief, and a Pair of lac'd Ruffles. The Stuff that cover'd the Pincushions, the Linnen of which the Hankerchief was made, and the Lace of the Ruffles were all produced from the natural Bark of the same Tree; the Letter which accompanied the Present, was to this Effect;

The Mountains that rise in the middle of *Jamaica* have a Growth of Trees of a moderate Size, and which the Inhabitants of the Country distinguish by the Name of *Lagetto*. The Leaves resemble those of a Laurel-Tree; the exterior Bark is almost as hard and brown as that of other Trees. But what appears very surprising, is, that the inward Bark, which, at first, seems white and very solid, is composed of twelve or fourteen Films, which may be easily separated into as many Pieces of Stuff or Cloth. The first of these Films, which immediately succeeds the gross Bark, affords a Cloth substantial enough to be form'd into Habits. The inward Films resemble Linnen, and are proper for Shirts. But all these Films that compose the interior Bark of the smallest Branches, are so many Pieces of exceeding fine Cawze, or Lace, which extend, and then shrink back, like a filken Net. A Neckcloth made of this *Lagetto* Lace was formerly presented to *Charles II.* King of *Great-Britain*; and all these vegetable Cloths are strong enough to be wash'd and whiten'd, like common Linnen*.

The same Letter adds†, that there is another Tree in this Island, which produces a Fruit, whose Pulp is a natural Soap that will serve to wash the Linnen Product, and the Stones of it are used as Buttons to wearing Apparel.

Prior. That Country can't want Manufactures; but we need not go so far in search of useful Barks.

Chevalier. Cork, which is so instrumental in preserving the most precious Liquors, is only a Bark, as I have been inform'd.

Prior. Nothing more, Sir; and when it appears so black and rugged, and likewise proves so light, one would hardly imagine it could be so useful as to close the Orifice of all sorts of Vessels, with so much Exactness and Pliancy; and that it should also be impenetrable to the Liquor.

* Nat. Hist. of *Jamaica* by Sir Hans Sloane, Vol. II. p. 22.

† Ibid. p. 132.

Cork, or the Tree which bears that Name, is a Species of large Ever-green Oak, which grows in *Gascoign, Spain,* and *Italy*. Its Acorns fatten Swine better than those of the common Oak. Its Bark cracks, and disengages itself from the Tree, in consequence of its being impelled by another Surface of Bark which is form'd beneath it. Care is however taken to prevent this natural Effort; and in order to acquire large and even Pieces, it is customary to make a perpendicular Incision through the whole Length of this great Tree, and two transverse Incisions, one towards the Head, and the other at the Bottom of the Trunk. The Bark is removed without being shatter'd, and is then soften'd in Water; after which it is placed over a Bed of burning Coals, which blackens its outward Surface. When this Operation is over, it is work'd into a Level by a Weight of Stones heaped upon it, and is afterwards dried and disposed into Bales for Transportation.

A circular Gash, and generally a slight Incision in the Bark of certain Trees, are the usual Expedients for extracting Liquors, Gums, and Rosins, which are useful in various Instances. The Pine, by these Means, is qualified to supply us with Pitch and Tar, for our Vessels and their Cordage. The Fir, the Larch, the Cedar, the Cypress, the Mattick, and Turpentine-Trees, with some other Species, are thus taught to afford us Rosin, Turpentine, and Weeping-Mastick; together with Incense, and all the Variety of viscous Juices that enter into the Composition of Varnishes, Perfumes, and medicinal Remedies.

It is the Bark of different Species of Trees, that furnishes a Flow of Balm, which is a liquid Gum, whose exquisite Odour renders Mankind solicitous to obtain it, and likewise to derive Advantages from its other Qualities. Its principal Merit consists in closing up Wounds, and discharging their Impurities. The Balm-Trees, which formerly grew in *Judea*, are entirely eradicated from that Soil, and have been transferred to *Grand Cairo*, which is thought to be the only Place where they are cultivated at present. Another Species of this Tree, called the *Copahu*, is reared in *Brasil*, and in our Colony of *Cayenne*. The Balm-Tree, which affords a viscous Liquor, whose Scent corresponds with that of Amber, and which is therefore called liquid Amber, is a *Mexican* Shrub, whose Leaves resemble those of the

little Maple. The Inhabitants of our *Mississippi* Plantations imagine they have found the same Shrub in that Country. The Balsam of *Tolu* is brought from *Carthagen*a to *Mexico*, and that which comes from *Peru* still continues in great Esteem.

If the agreeable Scent imparted by the Sap of our Limes, Poplars, and Birch-Trees, does not promise us a balsamic Fluid, it, at least, seems to indicate some useful Quality that has hitherto been too much disregarded.

Nothing is more usual than to see a particular Gum flow from the Bark of most Trees. Those which are chiefly employ'd in medicinal Preparations, and likewise in Manufactures, are the Gum *Arabic*, which gleets from the *Acacia* of *Egypt* and *Arabia*; the dropping Gum, which issues from a Tree in the Kingdom of *Camboge*; and the Gum which is imported among us from *Senegal*. That which trickles from our Cherry-Trees is as much esteemed by several Workmen, as any of the foreign Gums. We will now bestow a few Observations on Roots.

As Roots are bent in the Earth proportionably to the Obstacles that occur in their Progress, they are consequently more contorted and knotty than any other Portion of the Tree. As the Fibres therefore of these Parts are form'd into such a Variety of Deflections, while some of them are extremely dry, and others are drench'd with different Fluids; they furnish our Ebonists with Pieces of Wood that are veined and clouded with such a Diversity of Colours, as seem to have been traced out by the Pencil of a Painter.

Roots likewise supply Carpenters and Wain-wrights with Wood, naturally bent into the Shape of a Bow; together with other Pieces, whose Solidity almost renders them unchangeable, and perfectly qualifies them for those Parts of the Work on which the greatest Stress is afterwards to be laid.

Dyers also use a Variety of Roots; but those which are salutary to us in our Indispositions are almost innumerable; and no Remedies are so efficacious in all the *Materia Medica* as the *Pareira brava* Root in Fits of the Stone; the *Ipecacuanha*, in Dysenteries; and Rhubarb, in Disorders of the Stomach.

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As great and various as the Advantages we derive from the smallest Parts of Trees may prove, they are not comparable to those we constantly obtain from the Wood itself. The Deity seems to be daily creating an inexhaustible Substance, whose Pliancy qualifies it for the Reception of every Form we would cause it to assume, and whose Solidity preserves it in all those imparted Shapes.

The Suppleness of Wood consists in its Facility to be bent, and cloven, and polish'd. A young Branch is commonly weak and flexible, and there are several that may be bent into Circles, without breaking. In this contorted State, they acquire the Pliancy of a Cord, by which means they may be twisted into Bands, as well for Faggots, as for those enormous Floats of Wood, six and thirty Fathoms in Length, which are convey'd from one River to another, and traverse whole Provinces at an inconsiderable Expence; and each of which will, by the Assistance of no more than forty Men, be enabled to discharge fifty Loads of Wood at the Gates of those great Cities that want it.

Several Species of Wood, as the Chesnut, the Hazle, the Birch, the Ash, the Willow, the Osier, or Dwarf-Willow, and a Variety of other Trees, have a considerable Quantity of large and small Branches, which are so very supple and pliant, that the greatest of them, when they have been split from End to End, are capable of being rounded into Hoops, strong enough to bind together all the Staves of Tuns and large Fats, almost beyond the Possibility of starting; and when the least Branches have been slit, in the same manner, they are made into lesser Hoops, fit for binding Hogheads, Laundry-Vessels, Pails, and Casks of all Dimensions.

The Osier, by its Flexibility, furnishes the Gardener with Bands for palisading all his Trees; and supplies the Basket-Maker with Materials for Panniers, Flaskets, Scuttles, Hurdles, and such ornamental Works for Deserts, as are render'd very agreeable by their Texture, and the Variety of their Colours.

The chief Merit of the Osier consists in its Aptitude to preserve our large Tuns in a compact State, and to reduce the opening Staves to their first Cohesion; by which means they imprison the most impetuous Wines, and render their Transportation as practicable as that of the most solid Cargoes.

The young Branches are not the only Wood that will assume any Form we please to give it; since the most solid Growths, when their Bulk has been sufficiently diminish'd, will prove tractable under the Hand of the Workman, and especially by the Aid of Fire. The Cooper, for Instance, when he has shaped and planed his Pipe-staves, connects their Tops together in the Form of a Cask, by the Assistance of a Hoop which embraces them; and he then kindles a brisk and clear Fire in the Inside of the intended Vessel, the Pores of which are open'd by the Heat, and every Part is in Agitation for some Moments. In the Instant of their Disunion he disposes a Cord round the Extremities of the Staves, and then contracts its Circumference with an Instrument for that purpose; and as the Breadth of each Stave gradually diminishes from the Middle to the Ends, he forces them to bend and approach each other, while they form an inward Slant, which occasions a Swelling in the middle of the Vessel, and facilitates the sliding of the several Hoops over one another. In Consequence of which the middle Hoops may be changed, unbound, or fasten'd a-new, without displacing those that encompass the Extremities of the Staves.

Turners likewise by the Aid of Fire give a Rounding to the Planks of Oak or Beech, which they shape into Pails, Bushels, and other Measures of every kind.

The same Expedient is employ'd in bending the Side, of musical Instruments, and causing them to acquire that Proportion and Lightness, by which they are render'd susceptible of the Vibrations of the Strings that are stretch'd upon them. The thin Shell of Wood which covers the Body of a Violin, instead of giving a languid Repercussion of the Notes, after a Series of a hundred Years, will become more sonorous, and under the Bow of a * *Dubourg*, will kindle an Audience into a pleasing Enthusiasm. A *Geminiani* will soften its Modulations into inimitable Eloquence, whose Language will be intelligible to each Individual, because it will always be address'd to the Heart.

* The Translator has taken the Liberty to change the French *Forcrois* and *Marais* for the amiable Names of *Dubourg* and *Geminiani*, whose Harmony will never be depreciated by the Violins of any Nation whatever.

The Substance of Wood accommodates itself to our Necessities, not only by its Pliancy in bending, but likewise by its Divisibility into as many Parts as we please.

Chevalier. From whence, Sir, have most Species of Wood the Aptitude we observe in them, of cleaving through their whole Length; and what can occasion the Difficulty we experience in cutting them transversely?

Prior. This Constitution, which is called the Grain of the Wood, results from the Situation of the long Tubes, which being disposed in Lines parallel to each other, through all the Length of the Tree, in order to conduct the Sap to the Foliage and Fruits, may be disunited by the Insertion of a Wedge; but their Combination forms a Solidity, which will not easily yield to any lateral Effort.

Chevalier. This is much the same Circumstance as attends a Pacquet of Hemp or Silk; one half of which may easily be separated from the other, but it will be very difficult to rend them transversely; and if the Whole be twisted, in order to unite the several Threads more effectually, they will be form'd into a Cord strong enough to raise Bodies of the greatest Weight.

Prior. There is this Difference between the Threads which compose a Cord, and the Fibres which constitute a Piece of Wood; that the hempen Threads being naturally flexible, and very crooked, are unable to stiffen and consolidate the Cord in its Length; whereas the fibrous Tubes, which form the Grain of the Wood, are destined to convey the Sap, and are therefore very strait for the Generality; and when they have been well impregnated with their proper Nutriment, and are strengthen'd in a substantial Manner, one against another, their mutual Concurrence in the same Direction forms a Mass of that Firmness and Solidity through its whole Length, that a perpendicular Piece of Oak, an Inch square, will support a Weight of eight thousand Pounds; and a very few Props will sustain an enormous Load of Timber-Work, when the Wall on which it rested is removed.

But before we enquire into the Advantages we derive from the extreme Force of Wood, let us employ a Moment's Consideration on the Services it renders us by its Divisibility, and the beautiful Smoothness into which it can so easily be wrought.

The Ax, the Saw, and the Plane, enable us to divide a Trunk or Branch of a Tree into as many thin Planks as we please. This Wood may be hollow'd, rounded, and polish'd; it is likewise capable of being turn'd and contorted like ductile Wax, in order to be shaped into Banisters, Door-Cases, Wainscots, Sash'd Frames, Wardrobes, and all those fine Branches of Furniture that are formed by the Joiner, for the Reception of those Things we are desirous of preserving. I would add too, that a Set of Furniture of this Nature renders our Apartments as ornamental, and even more salutary than they would prove, were they hung with splendid Silks, and the richest Paintings, or were incrusted with the most magnificent Marble. When a Varnish is spread over the whole Work, it smoothes it from End to End with the utmost Uniformity, and its Bitterness chafes away the Worms that would otherwise injure the Furniture at our Expence.

The Facility with which all the Species of Wood may be divided and polished has awaken'd the Industry of Ebonists, through a Series of many Ages. They have acquired the Art of cutting the Extremity of a small Portion of Wood, agreeably to the Profil of the Figure they would cause it to assume. They can assemble, and glew a Range of delicate Compartments, regular Landscapes, beautiful Flowers, and curious Groups of Animals, on a solid and substantial Ground; and the Whole shall be composed of little Squares of foreign or domestic Wood, adjusted with the nicest Oeconomy.

They select the Olive-Tree, for its rich Veins; the Walnut-Tree, for its glossy Clouds; the Ebony, for the surprising Beauty of its sable Hue; the Box, for its golden Yellow; the Brasil, for its amiable Red; the small Cherry-Tree, for the Lustre of its Polish; the Maple, for its pleasing Spots; the Pear-Tree, for its Facility in assuming the Tincture of Ebony; the Cedar, for its Immunity from Corruption; the Wood of *St. Lucia*, which is a Species of the little Cherry-Tree of *Lorrain*, the Aloë, and a Variety of other Woods, for the Richness of their several Odours. These are formed, by the Art of Joinery, into Bureaus, Cabinets, Book-Cases, Boxes, Pedestals for Pendulums, Vases and Statues; and the principal Merit of these Works consists in their being conducted with a Simplicity of Design,

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Design, a Propriety of Execution, and a Solidity through the Whole.

The easy Methods of cutting Wood, and smoothing it into the finest Surface, promoted the Invention and Improvement of the Art of Turning. The hardest Species of Wood, as the Box and the Maple, which are scarce susceptible of any Impressions from Iron and Steel, may, when they are consign'd to the Hands of the Turner, be easily rounded, and diminish'd into a Delicacy of Shape; they are capable of being ornamented with flowing Fillets, rising Gorges, hollow Flutings, and swelling Fruits. His Instrument can form them into Columns, Balustrades, Boxes, and every other Figure he pleases to afford them. This agreeable Art has, at all Times, made repeated Transitions from the laborious Artisan, to Persons of distinguish'd Rank; it has relax'd the Austerity of monastic Solitaries, and has had the Honour to be the favourite Amusement of Princes themselves.

The Conjunction of Solidity and Pliancy, in the same Portion of Matter, is the Reason why Wood has been selected for representing, in high or demi-Relief, the Figures of Men and Animals, Flowers and Foliage; with all the Ornaments that have ever been attempted on Marble and Metals, in order to perpetuate their Duration. But, alas! a false Taste, with a partial Fondness for Glitter, has frequently condemn'd the finest Touches of Sculpture to Obscurity, under a radiant Surface of Gold and Silver! How many rich Figures of *German*, *Pilon*, and others of our best Statuaries, have lost the greatest Part of their expressive Energy, and delicate Lightness, under the Bronze and Gildings that incrust them!

Chevalier. I have heard a Piece of History related, which corresponds very much with your Observations. *Lycippus*, of *Sicyon*, form'd an incomparable Statue, which represented *Alexander the Great*, in his Bloom of Youth. *Nero* caused it to be gilded over, because it was only Brass. This ridiculous Ornament defaced all the Beauty of the Features, and harden'd every Grace in the youthful Form. The Gold was at last taken off, and the Statue appear'd more valuable than before, even with all the Disadvantages it had sustain'd from its injurious Embellishment. But I don't consider,
Sir,

Sir, that I interrupt your Account of the Benefits we receive from Wood.

Prior. The Sequel would be too long for one Conference; for which Reason the Enumeration of the Advantages we derive from the Solidity and other Qualities of Wood, shall be reserved for your Entertainment To-morrow.

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D I A L O G U E XVI.

The PRIOR. *The* CHEVALIER.

Prior. **I**N our Yesterday's Conversation, Sir, I intimated to you several of those Advantages we derive from the Trees of the Forest; but they are render'd still more beneficial to us by their large Dimensions, and chiefly by that Texture of their constituent Parts, which prevents their Separation. We may easily discover, in the wide Scenes of Nature, a Number of Bodies that are very massive and compact; such as Stones and Blocks of Marble, which we can appropriate to a Variety of Uses. But we find it very difficult to assemble and range these Masses in such a manner as may be subservient to our Designs. They are very untractable as well as brittle, and are only useful to us, by continuing in a State of Immobility; whereas the most enormous Masses of Wood are always obsequious to the Intentions of Man. Trees of eighty Feet in Length plunge their Roots into the Bowels of the Earth in search of a solid Bottom, in soft Soils that would sink under a weight of Building. These mighty Growths of Wood may, by the Force of Blows, be driven deep either in the Earth or Water, where they will form a Forest of immoveable Piles that are frequently incapable of Corruption, and will for ever sustain the Weight of the largest Structures, with such a firm Cohesion and Equality, as
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are not to be obtain'd even from the Solidity of the Earth itself.

I likewise see vast Bodies of Timber disposed in a very different Situation. They ascend to the Tops of Buildings, where they strengthen the Walls, and prevent their starting from the Positions assign'd them; they sustain the whole Pressure of a huge Roof of Tiles, or Slates, or even Lead itself.

Is it, at any time, necessary for them to be in Motion, for the Service of Mankind? You will then behold immense Beams, which almost appear unmanageable, moving from their Places, and adapting themselves to the full Play of mechanic Powers. They mount aloft, they descend, they roll, they whirl along, with as much Agility as Force, for the Satisfaction of Man, and to aid the Inability of his feeble Arms. They furnish Materials for those Frames that sustain, for many Ages, the ponderous Swing of the largest Bells. They are shaped into Naves, and Axle-Trees, Wheels, and weighty Carrs; and are converted into all the Vehicles that can possibly be form'd, by the Wain-wright, for the Conveyance of our Burdens to what Quarters we please. They supply us with Draw-bridges and Portcullis's: Wine-Presses, and Machines for Founderies; together with Cranes, and all those mighty Engines, which dispatch more Work in an Instant, than could formerly be accomplish'd in many Hours.

In a Word, we are indebted to the Forests for all those Vessels that move upon the mighty Waters, and resemble floating Cities, which are wasted, with all their Inhabitants, by the Winds, from one End of the Globe to the other.

Chevalier. It was certainly a daring Attempt, to traverse the Ocean on a Set of Plants, fasten'd together. How could such a Thought ever enter into the Imagination of Man?

Prior. Man observed, that the Animals around him were supplied with all that was necessary to their Existence, from the Moment of their Birth; and were enabled to transport themselves, from Place to Place, with surprizing Agility; while he himself was constrain'd to move with a slow Progress, in the painful Pursuit of those Accommodations that were dis-

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perfed at a large Distance from him. He beheld other Animals gliding as light as the Wind, in the Regions above him; he faw them cleave the Air, without the leaft Impediment, and transport themselves, from Land to Land, by a Flight that was unobftruded by interpoſing Seas. Man came into the World deſtitute of all theſe Advantages, but he derived an ample Equivalent from the Faculty of Reaſon, by which he compelled the terreſtrial Animals to direct their Motions for his Service. The Levity of Wood, the Fluctuation of the Waters, and the Force of the Winds, furniſh'd him with Expedients for procuring Vehicles, by Land and Sea, as light as the Wings of Birds. When theſe Inventions were compleated, he no longer was limited to a ſcanty Portion of Earth, but was able to transfer himſelf wherever he pleaſed. A mutual Inter-
 courſe was then maintained by diſtant Provinces. The Cities, that were ſeated on the Outlets of Rivers, were furniſh'd with Importations from foreign Lands, and then tranſmitted them, by their Rivers, to different Parts, and diffuſed them through a whole Kingdom. *Paris* and *Nantz* were approximated by theſe Means, and all the Subjects of a mighty State ſeem'd to be associated into one City, by Virtue of theſe mutual Communications. They ſoon became intimate; they contributed to the Aid of each other, and frequent Viſits were interchanged between them. I may even affirm, that the whole Earth is now become one City, of which the Continents form the different Quarters. Man, ſince the Invention and Improvement of Navigation, can take a Progreſs to each Extremity of the World, in the ſame Manner as the Inhabitants of *Venice* paſs from one Quarter of their City to another, in their Gondolas. He now can travel nine thouſand Leagues, in leſs than the Space of two Years, by the Aid of his Veſſel and Sails, and he arrives at thoſe Regions that have never been viſited by the Birds of his Climate. When Eagles and Faulcons attempt to expatiate as far as Man, they are debilitated and loſt in the Miſt of their Paſſage.

After this Account of the Advantages we derive from Wood, can we imagine it to be capable of affording us another, which is ſtill more important? This, however, is a real Faſt. Wood is the Support of our Lives, ſince it contains the principal, and moſt natural Aliment of Fire,
 without

without which we should be incapable of preparing our usual Food, or forming the greatest Part of those Conveniencies that are most necessary for the Preservation of our Health.

The Sun is the Soul of Nature, since he imparts Life and Action to all her Works; but we have no Ability to collect his Beams, in such a Manner as will be sufficient to prepare our Food for our Tables, or to melt and form our Metals into the Shapes we need; we are unable, by his sole Ministration, to soften, and dry, and purify the Portions of Matter we employ. Wood supplies the Deficiency of the Sun, in most of these Operations, and, in Proportion to its Quantity, accommodates Mankind with all the different Degrees of Heat and Flame.

In the Winter-Season, when the Sun only rises to an inconsiderable Height above our Horizon, the Length of the Nights, in Conjunction with unsalutary Fogs and severe Frosts, would be sufficient to extinguish that vital Warmth in Man, which is cherish'd by the solar Beam, did not our Hearths afford us a reviving Heat and Alacrity, of which we should otherwise be divested in the Absence of that Luminary.

Chevalier. I am now sensible how necessary the Woods are render'd to our Welfare. The Trees that bend under a Weight of Fruit are not so beneficial to us as those we call unfertil. But is this Wood, Sir, which proves of such Importance to us, so scarce as is commonly represented? If we credit an old Prophecy that is so generally known, all *France* will one Day perish for want of Wood. Is there any Foundation for such an Opinion?

Prior. You will easily judge of the Falshood of this Prediction by the short History I will now give you of our Woods.

This precious Substance, which is so necessary to all the Conveniencies of Life, was once extremely plentiful in *France*, and in all the other Countries of *Europe*; and the Inhabitants were even embarrass'd with its Profusion. In the Times that immediately succeeded the Deluge, it is very probable that the Seeds of the Herbs and Plants, which the Waters had swept away, and afterwards deposited on the Earth in a promiscuous Manner, began to shoot

An historical Account of the Forests of *France*.



The Foliage of the Oak .



J. Mynde sc.

The ever green Oak with its Acorn.

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shoot forth in all Parts; in consequence of which, whole Continents have been almost cover'd with their Productions. As the Nations advanced from the *East* to the Occidental and Northern Regions, they were obliged to cut down the Woods in the Lands they propos'd to inhabit and cultivate. The Extent of the Forests in *Germany* and *France* was accordingly contracted, in proportion as those Countries became populous.

These Forests were, however, so immense and unserviceable in the twelfth Century, that the great Lords granted large Portions of them to the first religious Communities, that were desirous of a Retreat in those Solitudes. The Disciples of St. *Norbert* and St. *Bernard*, were indefatigable in clearing the Center of the Woods they inhabited, and these laborious Solitaries gradually cultivated Tracts of Land that produced extraordinary Revenues out of those desolate and neglected Thickets where the Ax of the Woodman had never resounded till then. It may likewise be affirm'd to their Honour, that the Portions of Land which had been consigned to them were of very little Value; and that they themselves were the Founders of those affluent Fortunes, in the Enjoyment of which their Successors are so much envied at present.

Those Lords and Communities who possessed large Tracts of unnecessary Wood-Lands, converted the greatest Part of them into arable Lands; and the Number of the Inhabitants was augmented, in proportion to the Enlargement of the open Country, and the Increase of its Profits. Experience has made it evident, that the more any Land is cultivated, the greater Number of Inhabitants may be supported by it; and, on the other hand, the more numerous the Inhabitants prove, the more effectually will the Land be cultivated. The State derived great Advantages from the Lands that were thus cleared; but as the best Regulations may sometimes run into Extremes, and as valuable as the Productions of the Earth may prove, our Woods may be cut down to such a degree, as may hereafter reduce *France* to the Condition of *England*, which has suffer'd its Forests to be totally destroy'd*. Our Circumstances would then

* Our ingenious Author has been a little too inconsiderate in this Assertion. For the Forests which are still remaining in *England*, are sufficient to secure her the Empire of the Ocean against all Competitors for many Ages.

be render'd more deplorable than those of the *Dutch*, who can supply their want of Wood, by burning Turf, which is an unctuous kind of Earth, dug by the Natives from their marshy Lands. We should likewise be more destitute than the *English*, who are furnish'd with vast Beds of Coal, which is another Species of fat Earth, impregnated with Sulphur, and other metallic Principles, whose Scent, which is something disagreeable, may be render'd very supportable by Custom. We, at last, became sensible of the fatal Consequences that were likely to result from the Liberty taken by each Individual, in disposing of his Woods in the same manner as he acted by other Branches of his Property; and we were guarded by the Wisdom of our Government, from the Necessity of having Recourse to the *Northern Nations* for our Supplies of Wood. Our Kings, who are always attentive to improve the natural Productions of *France*, established a Set of Conservators of the Waters and Forests, to prevent all arbitrary Devastations and Fellings of Wood. They regulated the proper Order and Seasons for Cutting, and no one was permitted to fell a single Stem, till the proper Officer had mark'd the Tree with the Conservator's Ax. But as it was not thought sufficient to secure the large Growths from the Caprice of private Persons; several wise Reservations were made in favour of the Under-Wood, which is used for Faggots, Rafters, Laths, and Hoops. As the Timber, which is employed in building Houses and Ships, is the most important Species of all; due Precautions were taken for its Propagation, and sixteen Standard-Trees were order'd to be preserved on each Acre of Coppice-Land, in every Season for felling; and these were not to be cut down without a proper Licence from the Conservator; by which means, the Trees, that were so preserved, acquired their due Growth, in Process of Time, and the best Seeds were always planted, after each Felling; in order to prevent the Exuberancy of bad Wood.

In consequence of the same Regulation, ten Trees are to be left on each Acre of Land, whenever the full-grown Timber is fell'd.

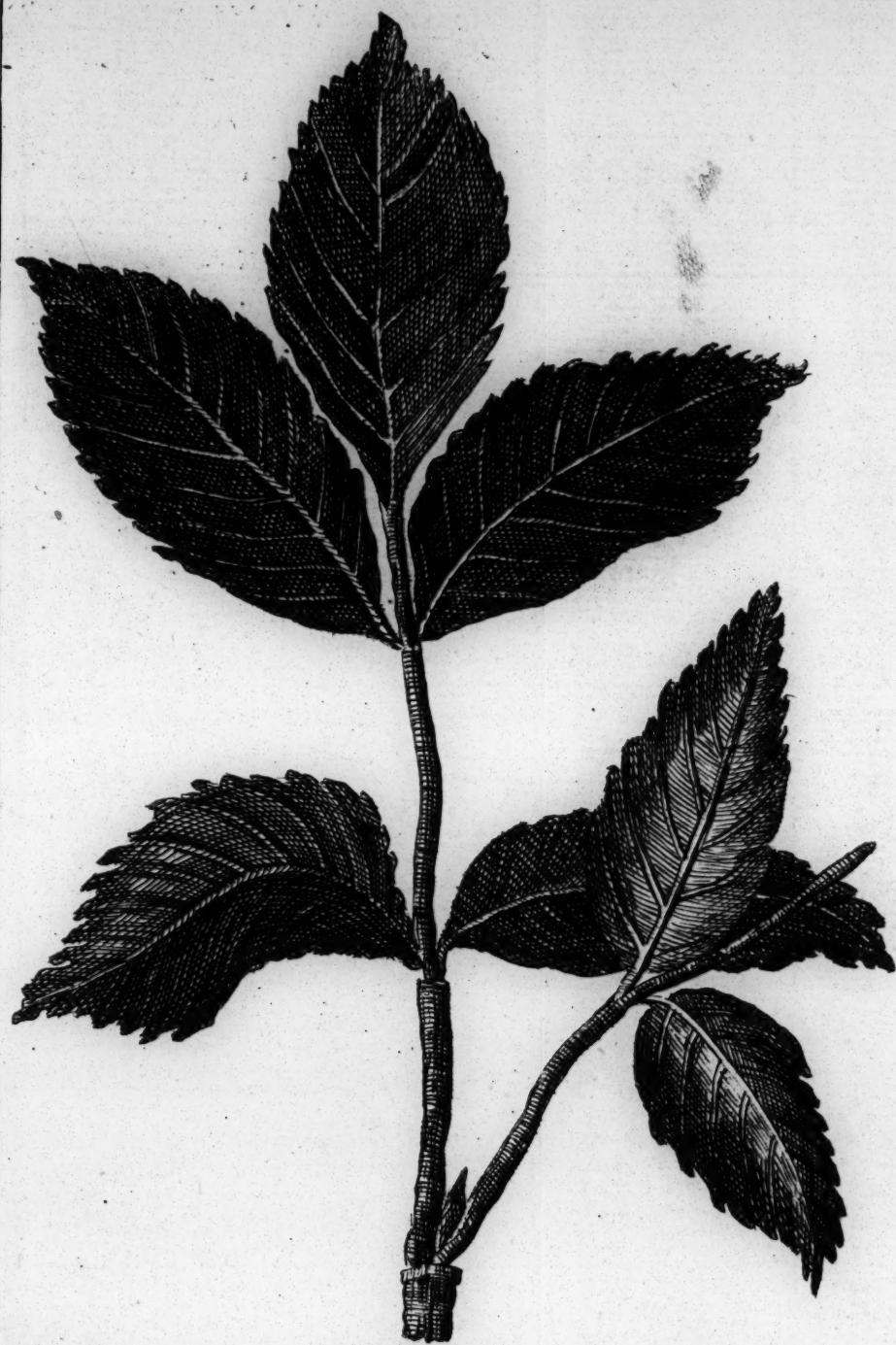
All private Persons were likewise prohibited from disposing of their Standard-Trees, till they had continued forty Years in the Coppice, and the full Growths were to be a hundred and twenty Years old; by which means, a sufficient

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The Ash Tree



The Alder Tree

Ja. Mynde. sc.

ficient Quantity of Wood is always secured for Fuel and Building.

The Precautions of our Government were extended yet farther. When the Trees were crouded together in the Woods, they shot forth but few Branches, while their Trunks swell'd into a large Substance, and rose to a great Height, because they enjoy'd a free Circulation of Air only on their Tops. Persons of Judgment were sensible, that when some Part of a Wood should happen to be fell'd, the Stems of the remaining Trees would acquire but a very moderate Circumference and Height, when they grew up to Standards, because their lateral Branches would shoot into the vacant Spaces, which would then be afforded them by the Wood already fell'd. They likewise foresaw, that the same Stems would be more exposed to the injurious Effects of Cold, in the open Air, than they were in the closer Growth of the Thicket; and that those Trees, which survived the Rigours of the Frost, would fall by the Ax of the Woodman, who knew no Law more cogent than his own Necessities. In order, therefore, to preserve and multiply the Timber-Trees, in a more effectual manner, *Lewis* the XIVth commanded a Reservation to be made of more than a fourth Part of those Forests that were possessed by the Church, or any ecclesiastic Community, as a Property in *Mortmain*. This reserved Portion is now become so sacred, as to be exempted from the Authority of the Conservator himself; and the Trees are not to be cut down, without an express Commission from the Council, who are to be satisfied of the Necessity for that Proceeding; and a Licence of this Nature is never granted, but when the Plantation is in Danger of perishing by Age.

The Court, the Nobility, and whole Cities, have added many laudable Examples to these judicious Regulations. Our great Roads begin to be border'd with long Rows of Elms, and other Trees, which, in all Probability, will prove a beneficial Resource in some future Emergency. The Traveller, while he passes through large Provinces, may enjoy the branching Verdure that blooms over his Head, without intercepting the amiable Landscap of the Country from his View. A Variety of rising Avenues conduct the Eye to stately Castles and large Towns; and *France* seems, within

within the last twenty Years, to be changed into a Garden of Pleasure.

Chevalier. You have relieved me, Sir, from my Apprehensions of a Scarcity of Wood; but in order to preserve it more effectually, I think we ought to practise the Reverse of the former Method. Our Ancestors converted useless Forests into arable Land; but it would now be proper to convert useless Lands into Forests. I know some Soils in which Buck-Wheat is sown but once in five or six Years.

Prior. The Method you recommend, Sir, has been practised by several Persons with great Success, and is one of the best Expedients for the Melioration of bad Soils, and especially such as lie waste, and are very remote.

Chevalier. But we must wait many Years before we can derive any Benefit from these new Plantations.

Prior. A provident Father, who is all his Life-time industrious to make a decent Provision for his Children, will easily prevail on himself to resign the inconsiderable Profits of a dry and stubborn Piece of Land for a few Years, in order to secure to himself and his Descendants the Enjoyment of a better Revenue.

Chevalier. The Plantation of a Wood seems to be attended with another Inconveniency. A good Soil is never appropriated to this Use; is it possible, therefore, to rear a Growth of Trees on those Lands which are unproductive of Corn?

Prior. There is no Soil so very barren and dry, as to be incapable of affording some particular Species of Wood, which is always profitable to the Proprietor. If a Tract of Land should be favourable to no Plants but Aspen-Trees, or a Growth of Broom, which is very rarely the Case; the Profits will, however, be much more considerable than those which arise from a little Buck-Wheat once in five Years. The Productions of the Soil would always supply the neighbouring Inhabitants with Fuel, and would likewise afford a salutary Refreshment to Flocks of Sheep, who cure themselves of their Distempers, by nibbling the pointed Spires of Broom. The Scarcity of Wood in any particular Country, the Neighbourhood of a good Town, and likewise of a commodious River for floating the Wood, are Circumstances that often concur in the same Situation, and ought to be consider'd by the Proprietors of Land, as so many prevailing

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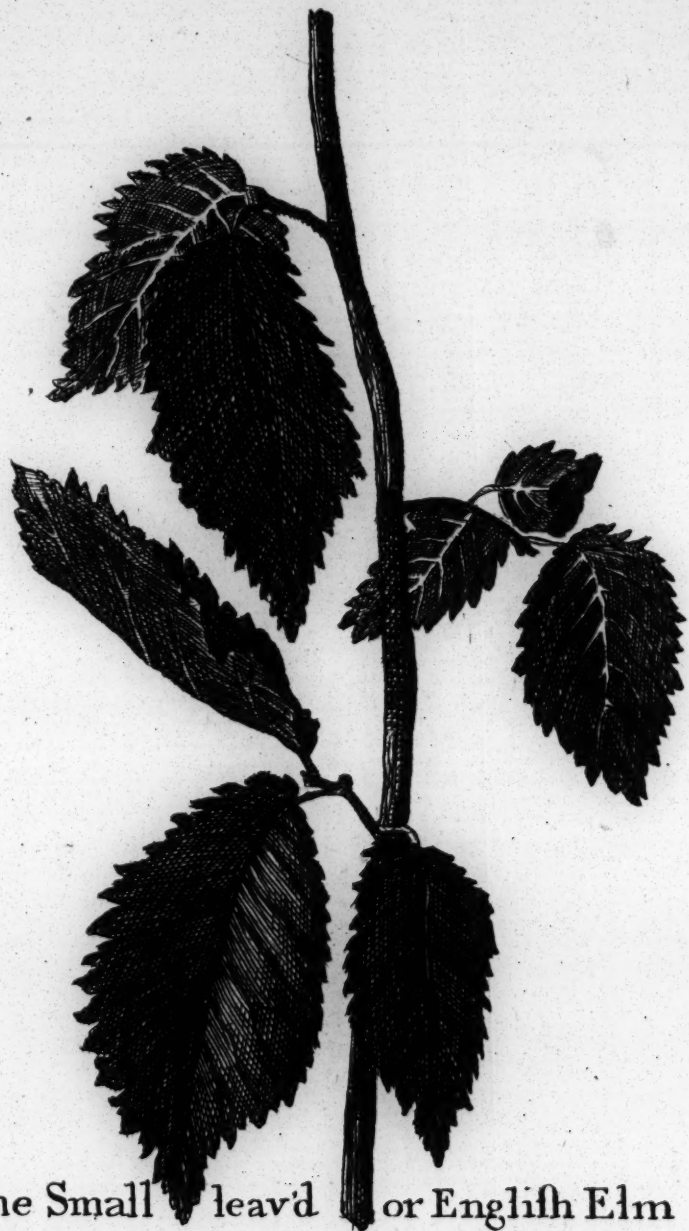
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The Small leav'd or English Elm



The Yoke Elm

prevailing Motives for Planting ; and they may be confident of Success from innumerable Examples of the same Nature.

The whole Affair consists in the first Culture, and the Choice of such Plants as correspond with the Qualities of the Soil. Those Trees that appear from Time to Time in publick Roads, and other Parts of the driest Countries, are so many Sketches of what the Soil is capable of producing ; and they seem to reproach the Inhabitants with the melancholy Aspect and Nakedness of their Mother-Earth.

Chevalier. What Methods are to be observed, when we begin to plant a Wood ?

Prior. The first necessary Labour will be to sink a deep Trench round the Land, where the intended Plantation is to be made ; and to throw the Earth of the Trench upon the Edges of the Ground it incloses. If this Precaution be neglected, your Work will be entirely destroy'd by intruding Cattle. You may either plant Seed or young Trees ; the latter of which will be soonest productive of Wood ; but they will likewise create a larger Expence. The Seeds will be more tardy in their Productions, but the Charge will be much less, and the Wood will be more vigorous and durable.

The Manner
of Planting a
Wood.

An Acre of Ground, containing an hundred Rods or Perches, each of which is equal to twenty-two Feet, will require fourteen thousand Plants, which are commonly sold for about Twelve-pence a thousand. These must be purchased of such Persons as have Woods of their own ; no one being permitted to take them either from the King's Forests, or from those that belong to ecclesiastic Communities ; because the State will never consent to the Diminution of this important Property, and no young Tree is ever to be removed from those Plantations, without an express Permission, which must be authoris'd by some emergent Occasion. It will be proper to chuse such young Trees for your Plantation, as have a large Spread of Roots, and have been newly taken out of the Ground ; because a Delay, even of two Days, is sufficient to destroy them in great Numbers.

The Plough prepares the Land for the young Plant at the least Expence. When a Furrow has been open'd, two Persons walk by the Side of the Horses, and place the Shoots in

in the Furrow, at the Distance of a few Feet from each other. The Earth-Board then covers them with the Soil that is scoop'd out of a new Furrow. Seventy-five Perches of Land may be planted in one Day, for three Livres and fifteen Sols; the usual Price for a whole Acre, being five Livres. Each of the two Men, who plant the young Trees, will be satisfied with twelve Pence, for a Day's Labour. The Plantation may likewise be made in Trenches, or long Channels; but this Method is more tedious and expensive than the other.

In order to plant the Mast of the Beech, and the Seeds of the Elm, with Success, the Soil should be broken into as minute Parts as possible; because the Buds of these Plants are extremely delicate, and never shoot forth with the Vigour of Acorns, which need only be cast into a Furrow that has been open'd by the Plough. The Seeds of the Elm may be gather'd up in the Fields; the Beech-Mast is sold, in several Places, for Ten-pence a Bushel, six of which will suffice for one Acre; but the same Quantity of Ground will require sixteen Bushels of Acorns, which are commonly sold for Five-pence a Bushel.

Before you plant your Seeds either in Furrows, or in Holes open'd at a regular Distance from each other, it will be proper to let them bud forth in a Bed of Sand, by which Means you may be certain of planting only such good Seeds as will prosper.

The young Plants, which spring from these Seeds, will require some Attention for the first Years, and they will be greatly forwarded by proper Refreshments of Water in dry Seasons; they should likewise be thinn'd, when they are so numerous as to defraud each other of their mutual Nourishment; the Earth should also be stirred, when it grows too compact; and Care ought to be taken to clear away the Weeds, which choak the Growth of the tender Plantation.

When the Trees have been in the Ground for the Space of ten Years, a single Acre will furnish you with eight or nine hundred, or even a thousand Faggots, at the first Lopping; and when twenty Years are expired, the same Quantity of Land will produce a third more. But if you let the Wood grow untouch'd for about twenty-four Years,

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every Acre will yield you ten or a dozen Cords of Wood*, and a thousand Faggots, exclusive of the white Wood, which may be shaped into Poles, and Pannels, and Rafter's for thatch'd Roofs. I omit the reserved Growth of Standards, which will afterwards furnish all the Pieces necessary to form those Roofs that are to be cover'd with Tiles. Experience has made it evident, that each Acre of such Wood-land will yield its Owner fifty, sixty, and even seventy Livres, every ten Years. The Expence of sinking the Trench, and planting the Trees, may, perhaps, amount to ten Crowns. If the Ground, which is converted into Wood-land, be farm'd at twenty-five Pence an Acre; the Sum necessary to be advanced for Planting, and the Loss sustained by the Discontinuance of the yearly Income for ten Years, will be repaid with Usury by the first Lopping, and much more amply by all the others.

If, instead of a Coppice, you are desirous of lofty Trees, a Growth of ten or a dozen Years may be gained by planting fine young Trees, six or seven Feet in Height, and four or five Inches in Diameter, at the Distance of a Fathom from each other, or something more; and it will be proper to secure them with Stakes, against the Violence of the Winds, and the Frictions of Beasts; but the Expence of a Trench will be altogether unnecessary.

Coppice-Wood is cut but once in nine Years; but if you suffer it to remain untouch'd for twenty-seven Years, this Wood will begin to shoot into a high Growth, which will be fully compleated in the Space of sixty Years.

Some Persons are betrayed into a great Mistake, in this kind of Melioration; by desiring to raise those Plants which they think most consistent with their Interest to obtain, instead of chusing such as the Soil is most capable of producing; but this dangerous Inadvertency may be easily avoided, because we may soon know what kind of Wood will be naturally produced by each Soil, and what particular Soil is most coveted by each Species of Wood.

The Oak, which affords such useful Materials for Building, never prospers in a sandy Soil, but The Oaks thrives best either in Clay, or in stony Ground.

* A French Cord of Wood is equal to two Loads.

The Ash. The Ash, which is employ'd in the Formation of Ploughs and Axle-Trees, Oars and Poles, Vine-Props, and Variety of other Instruments, is always unsuccessful in Soils that are either hard, or cold; or in such as are composed of Clay, or Chalk; but it acquires a sudden Growth, and thrives, to Admiration, in a Plain of light Earth, of a moderate Depth.

The Service-Tree. The Service-Tree, which is universally esteemed for the Solidity of its Wood, delights in a cold Soil; provided it be substantial and nourishing. Its Leaves resemble those of the Beech; but their lower Surface has a whiter Hue.

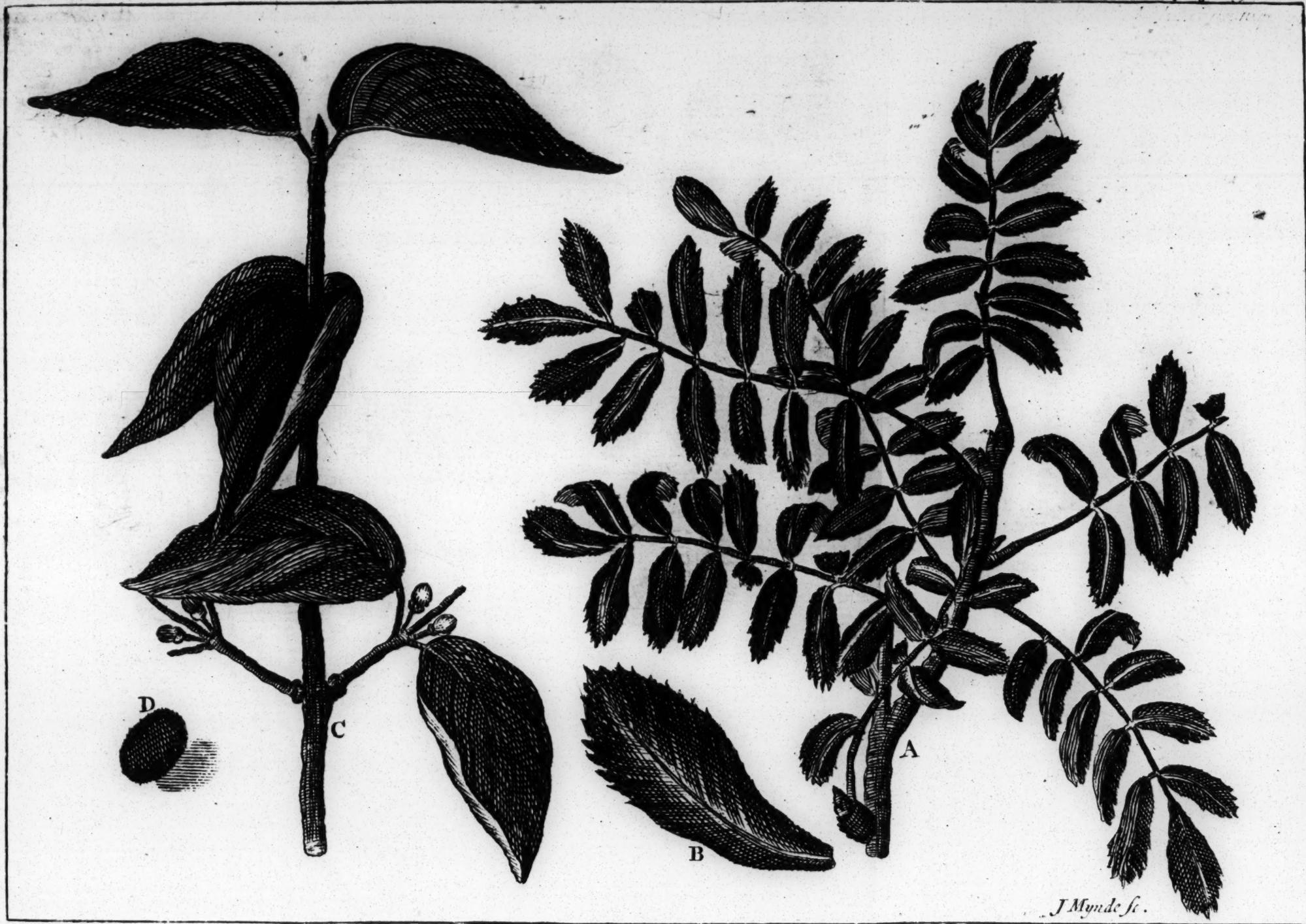
The Cornel-Tree. The Cornel-Tree, whose Wood is almost as hard as that of the Service-Tree, rises in every Soil, and is successful even in shady Situations. The Fruits of both these Trees are agreeable, when they have attained their due Maturity.

The Beech and Yoke-Elm. The Beech and the Yoke-Elm, which afford such a pleasing Fuel, and are so useful in forming the Keel, as well as the interior Parts of Ships, are as prosperous as we can desire, in hard, as well as in mountainous and chalky Lands. A very palatable Oil is extracted from the Mast of the Beech.

The Elm. The Elm, which is proper for Pipes and Mills, and likewise for Pumps, and those Parts of Ships which are always immersed in Water; and is thought preferable to any other Tree, for those Works that are form'd by the Wain-wright, is contented with a moveable Soil, if it be properly prepared. Those, who are desirous of seeing their Elms branch into a fine Head, plant them at a Distance of twenty Feet from each other.

The Plane-Tree. The Plane-Tree, whose Wood is as strong and compact as that of the Beech, delights in level Lands, and Situations of a moderate Humidity.

The



J. Mynde sc.

A. The Foliage of the Service Tree. B. The natural Dimensions of the Leaf. C. The Cornel Tree D. The Cornel Berry.



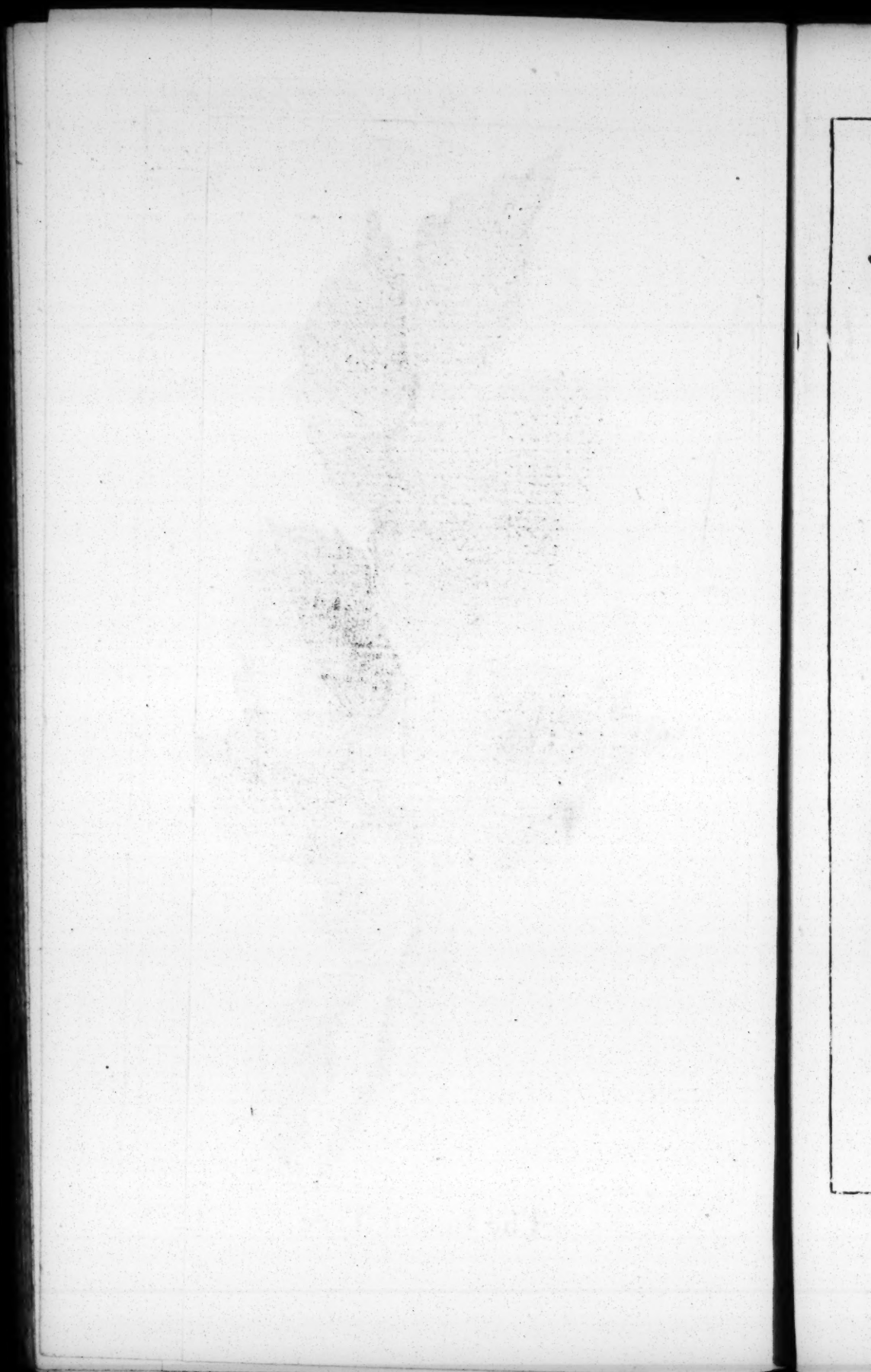


The beech Tree.



The lesser Maple

J. Mynde sc.





The Chestnut Tree

J. Mynar. sc.

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The Chesnut-Tree was formerly very common and useful in *France*; and Persons of Curiosity and Taste admire the Beauty and Elegance, as well as the undecaying Solidity of this Wood, in the Joinery Work of most of our great Churches. This Species, which is almost exhausted at present, prospers in the driest and most useless Soils, remote from Marshes and all watery Lands; and it rises on the *Northern* Declivity of Hills and Mountains. It accommodates itself to all sorts of stony Soils, and pierces into the most impliant Masses of Earth. The Goodness of its Fruits; the Beauty of its Leaves, which are seldom injured by the Ravages of Insects; the fine Qualities of its Wood, which render it an excellent Material in great Buildings; the Promptitude of its Growth, and the surprising Facility, with which it may be multiplied in every Soil; have already induced several Persons to raise Plantations of this Tree, on those Tracts of their Lands as are most useless and unfertile; and we may now hope to see this amiable Tree revive in *France*, from whose Soil it has been extirpated, in a great measure, for many Years. The Elm, which is almost an utter Stranger to our Forests, was not propagated till the Reign of *Francis* the First. Several Persons have ventured to plant it in various Parcels of Land, without any previous Proof of the Soil's Conformity to the Nature of this Tree; and they have always been very successful. We, therefore, have much more Reason to plant the Chesnut-Tree in our worst Lands, where we are certain they formerly prosper'd; and we may be still more confident of Success, if we only cast our Eyes on the Lands of *Limosin*, which are hardly capable of producing Buck-Wheat and Lentils; and yet the Chesnut-Tree thrives there to such a degree, as constitutes the chief Riches of that Country.

The Walnut-Tree, whose useful Fruit and Wood are universally known, delights in a strong Soil. It plunges its Roots into the Earth in a perpendicular Descent, like those of the Oak, and it sometimes thrives in the most chalky Lands. It will be proper to plant these Trees at the distance of thirty, or even forty Feet from each other, and remote

from high Roads, to prevent injurious Visits from Passengers.

The Hazle-Tree.

The Hazle-Tree will succeed, without the least difficulty, in a light and sandy Soil ; it is likewise a very profitable Tree in the Coppice, where, in the space of ten Years, it will furnish a large Quantity of Hoops and Faggots, and Hop-poles, besides a Number of other Conveniencies.

The Linden, or Lime-Tree.

The Lime-Tree prospers in most Soils, but thrives best in fat Lands ; I, however, have seen Trees of this Species that have been perfectly beautiful, though they grew in a Mass of Sand that was six Feet in depth. The Wood of this Tree is not proper for large Works, but the Bark is very useful to Rope Makers.

The Birch-Tree.

The Birch-Tree will adapt itself to all Situations and Exposures.

The Willow.

Marshy Soils, and even such Lands as are entirely covered with Water, and which frequently appear to be the Seats of Sterility, will produce those particular Trees, which may properly be call'd amphibious, because they seem to spring, partly from the Earth, and partly from the Water ; as the Common and Dwarf-Willows, for instance, which prove such a useful Ornament to those Edges of Land that are abandon'd by Rivers. To this Class we may likewise refer the white,

The Poplar-Tree.

as well as the black Poplar, and the Aspen, which is another Species of the Poplar. All these Trees delight in Humidity, which is likewise extremely favourable to the Alder. This last Tree, and also the Osier, are the best Productions of marshy Lands. The Alder is form'd into Pipes ; and

The Alder.

it likewise makes excellent Piles for Rivers. Its Wood is very durable under Water, but soon decays in the open Air.

If any particular Soil should happen to prove unfavourable to these useful Trees, which is almost impossible in our Climate ; it may, at least, be planted with Box, which rears its Head in the coldest Situations. The

The Box-Tree.

Wood of this Tree is form'd into Spoons, Combs, and Boxes ; and it likewise furnishes Handles



The Linden Tree & its

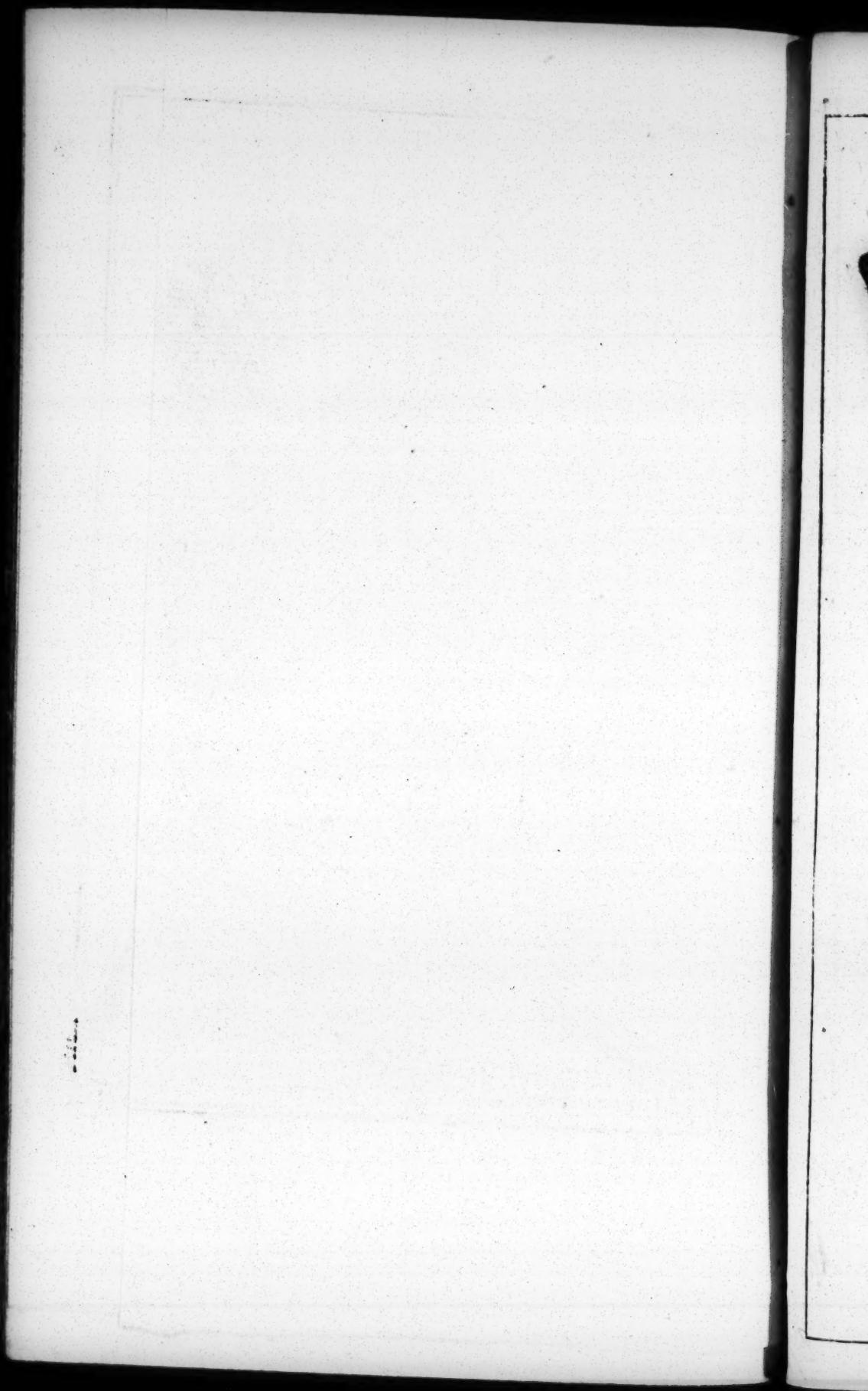
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The

Birch Tree.

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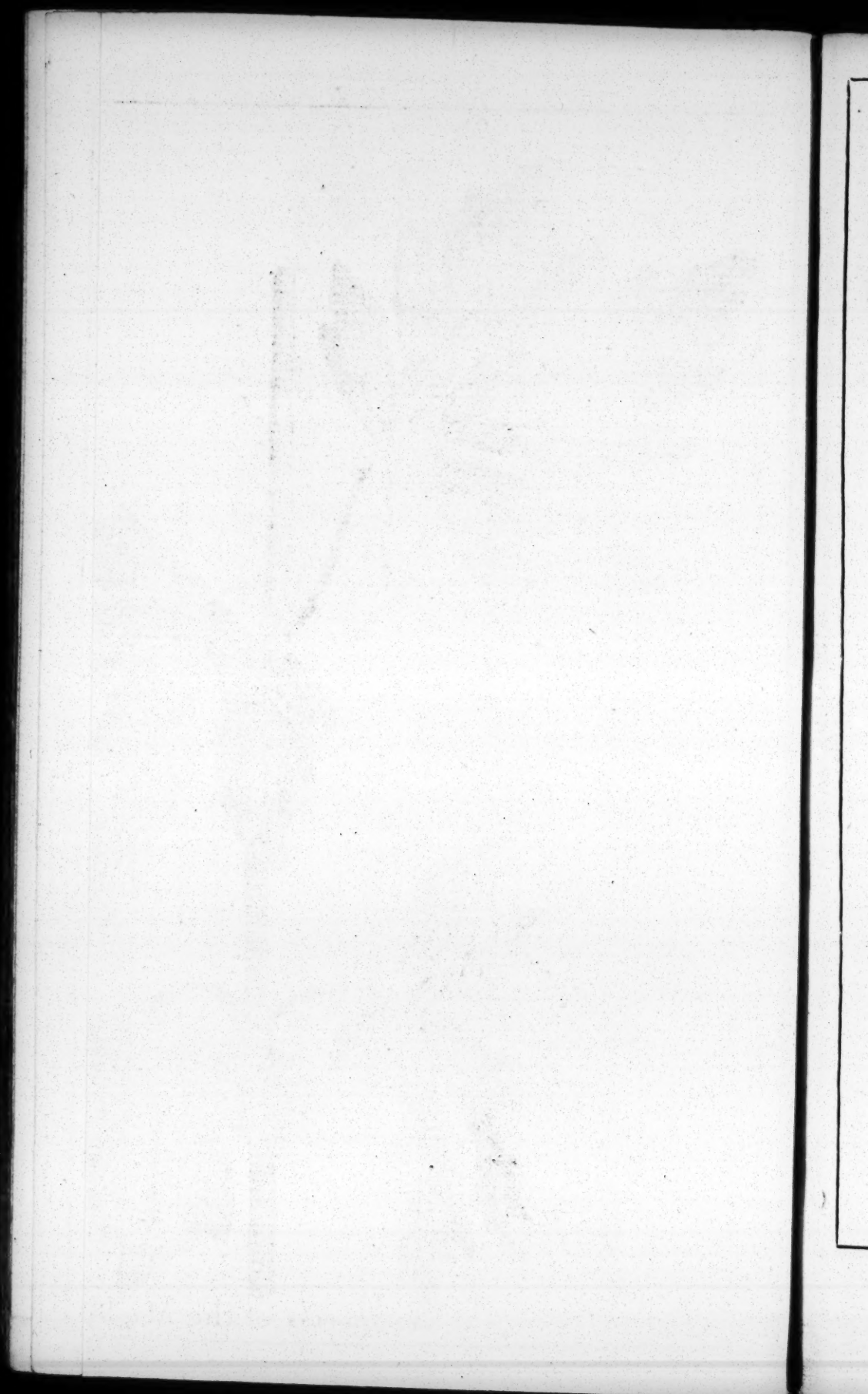




A Species of the Maple Tree

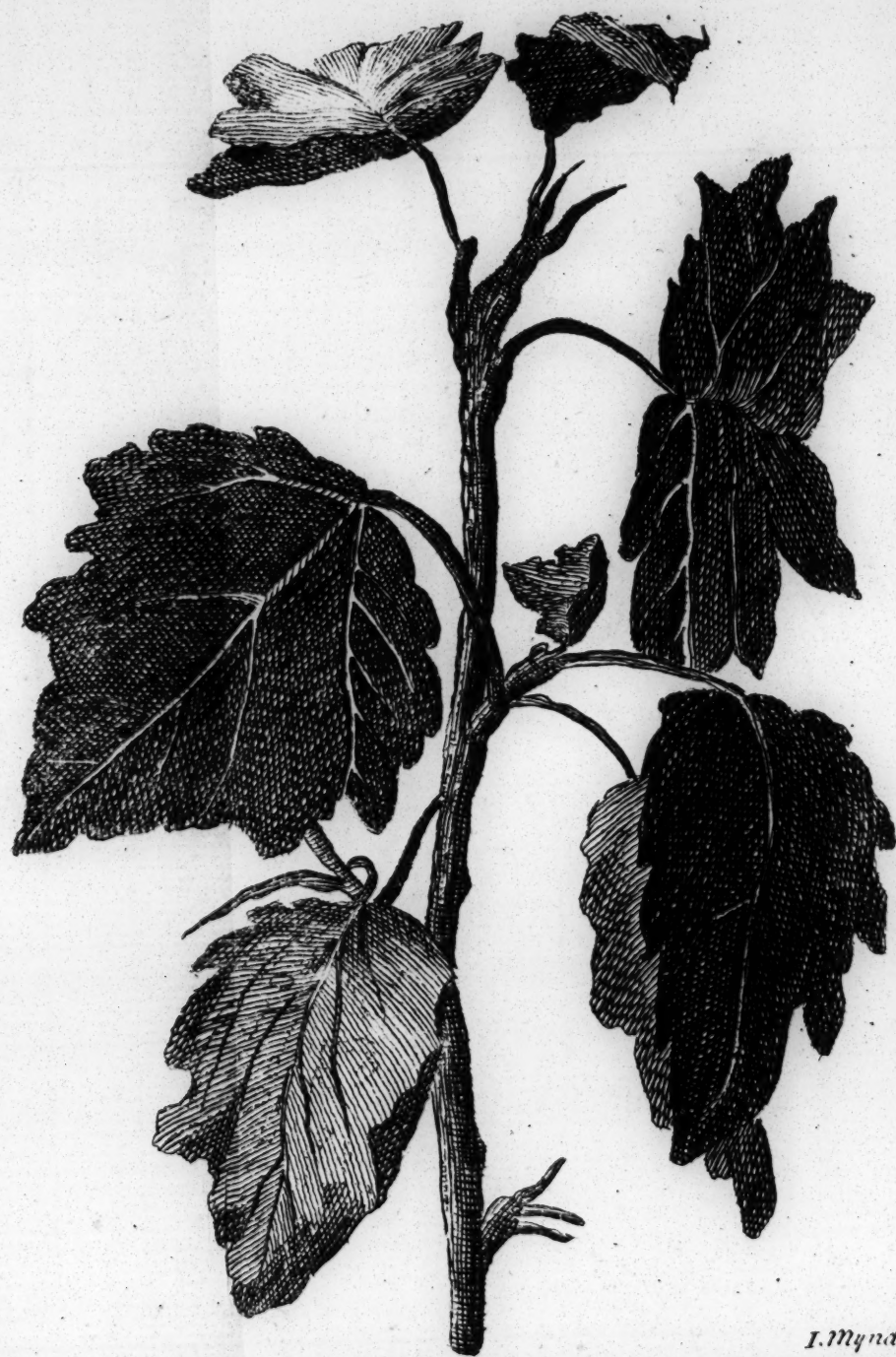


The Hasle or Filberd Tree



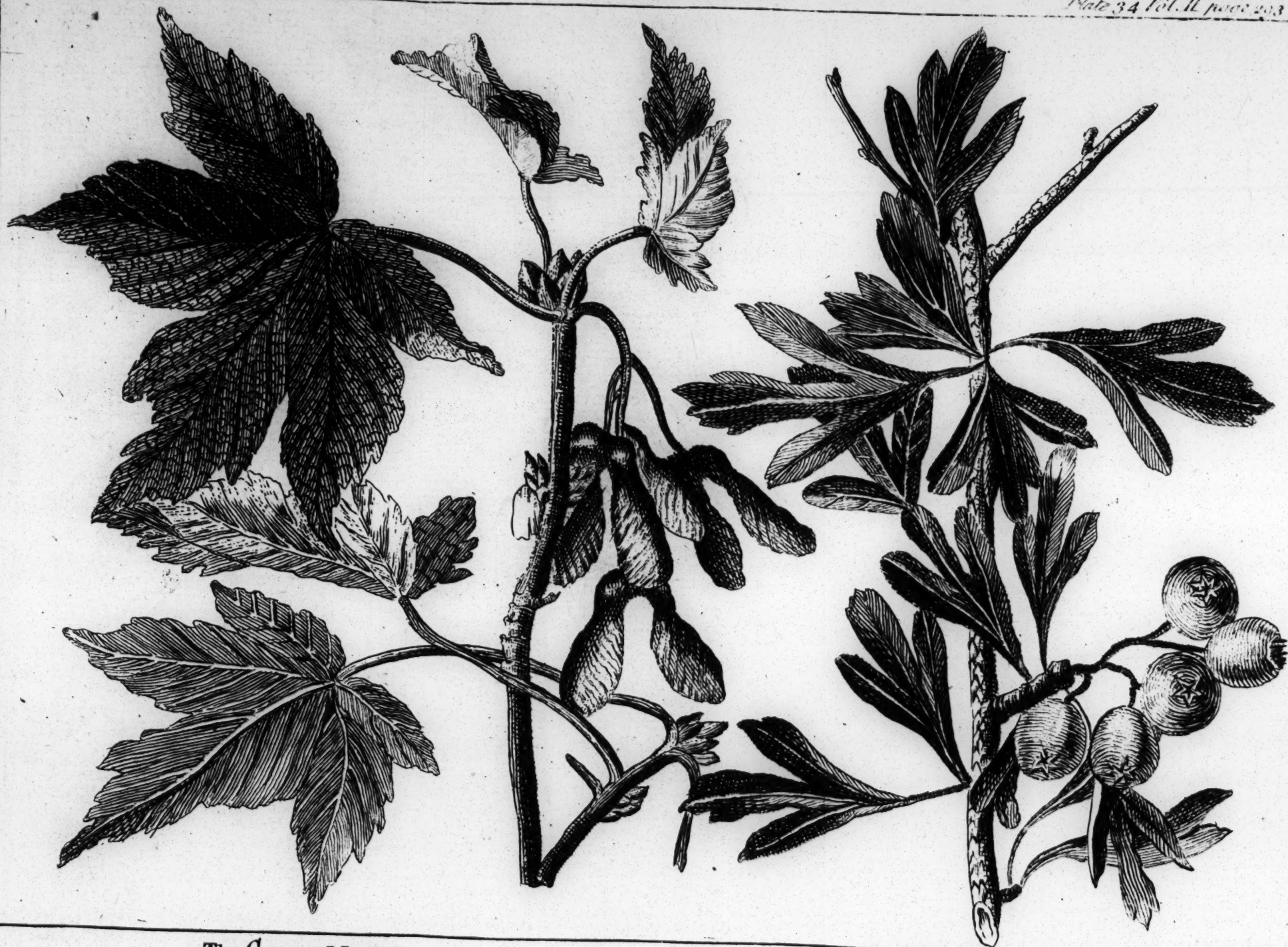


The Foliage of the Aspin Tree.



The Foliage of the Poplar Tree.

I. Myndes



The Greater Maple
falsly called the Sycamore tree

The Lazarole
or Neapolitan Medlar

I. Mynde scul.

Handles for a Variety of Instruments. The same Soil will also prove kindly to several resinous Ever-Greens; as the Pine, the Cypress, the Larch-Tree; and especially the Fir, whose Wood is of infinite Use to the Joiner.

The Pine.
The Cypress.
The Larch-Tree.
The Fir.

The Deity has not only diversified the Species of Plants, in proportion to our different Necessities, but has likewise accommodated those Plants with a proper Variety of Soils. Man therefore, who may easily be sensible of this apparent Ordination and Conformity, has no Privilege to complain of the Sterility of the Land he enjoys. If his Patrimony proves insufficient for his Support, he can only reproach himself either for his Indolence in its Cultivation, or his Unreasonableness in requiring those Productions, which are not adapted to the Soil he possesses.

Chevalier. You have mention'd several sorts of Trees, Sir, that always retain their Verdure; but what particular Advantage may we derive from the Diversity of the Species?

Prior. While the Deity consigns the Generality of Plants to a kindly Repose in the Winter, in order to recruit the Vigour they had exhausted in the preceding Seasons; he perpetuates the Verdure of the Juniper, the Holly, the Ever-green Oak, and a Variety of other Species. And though this Proceeding makes it evident, that his Operations are not subjected to any Laws or Necessity; it is equally certain, that they are always adapted to the Welfare of Man; and that he never exerts them with the least Appearance of Caprice. Were it not for this unchanging Verdure, what Expedients could occur for the Preservation of the Hare, the Hart, the Roe-Buck, and a Number of other Animals, that contribute to the Nourishment of Man, without creating him any preparatory Cares for their Subsistence?

This Truth will be render'd still more apparent, if we take a View of those resinous Trees that fill the *Northern* Regions, and whose Substance is impregnated with an Oil that secures them from the Penetrations of Rains and Frosts. The great Creator has form'd these immortal Forests, to cherish the Inhabitants of those rigorous Climates with a reviving Warmth.

The same Almighty Being displays another Instance of his Goodness and Independency, in causing the Forests to administer Support to a Multitude of Animals, who are not permitted to claim their Sustenance from Man. He has prepared a safe Retreat for these Creatures, in the deep Recesses of Woods; and he there supplies them with a Sufficiency of all they need. He alone arrays them with their proper Habits; his unassisted Providence nourishes the Lions and Tygers, and Leopards; the Harts, the Roe-bucks, and Does, the Wild Boars, the Wolves, and a surprising Variety of Birds. He lodges them in such Mansions as are commodious, and multiplies each Species, in their several Progenies. To some he has imparted Strength, others he has endued with Subtility; he distinguishes some Tribes by their Agility, and renders others dreadful by their native Rage; that Man may be alarm'd from the Indolence, into which he would be lull'd by too much Security.

The Deity causes all these Animals to exhibit to Mankind the Appearance, either of an advantageous Prey, a formidable Foe, or some acquirable Conquest. He strengthens him by the Exercises of the Chace, and qualifies him for opposing a more dangerous Enemy, in any necessary Conjunction. He habituates him by an innocent Probation, to defend himself, in the most effectual manner, against a lawless Invader of his Property. All the Animals, therefore, as well those that nourish us, as those that are injurious to us, may be consider'd as so many real Presents from the Creator.

Our Dominion over these Creatures is render'd most conspicuous in the Chace. In vain do they spring aloft in the Air, or shroud themselves in the intricate Recesses of their Wilderness. When they even plunge into the Bowels of the Earth, they are still incapable of eluding our Pursuit. We can draw them from their Retreats, either by Dexterity, or Force. The Bark of the Holly, and the small Berries of Mistletoe, that twines about the Oak, and some aged Apple-Trees, furnish us with a Grew that fetters the Wings of little Birds; and we can surprise the largest of these Animals by a Variety of Snares, and other artful Inventions. We can easily allure to our Nets, Mallards, and wild Geese, Curlews, Teals, and Lapwings; Plovers, Ortolans, and all other Birds of Passage. We can cause
a Ferret

a Ferret to dislodge the Rabbit from her subterranean Retreat ; and the Badgers and Foxes have no Asylum that can secure them against the Assaults of the Terrier. We have Birds and Dogs of all Sizes, to whom we can communicate our Intentions, in a Language they understand ; and according to our Manner of intimating our Orders, either by the Horn, or the Voice, they launch after their Game ; they unravel the Track, they wind about, they return when we call them off ; they rectify their Defaults, and assist us with the Keeness of their Sight, the Accuracy of their Scent, and the Agility of their Motions, to distinguish and secure the Game we are so desirous of obtaining.

Instead of the Bow and Arrow, we have, at last, furnished ourselves with Arms that are more expeditious in their Execution, and whose Effects are inevitable. We may aver, with some Appearance of Truth, that we now discharge a Volley of Thunder, since we launch through the Air a flaming Shaft that transfixes Animals at a great Distance, and frequently lays them dead at our Feet, before they could once be alarm'd at the Sound, and the Flash which accompanied the Shot.

Chevalier. I judge, by the Delight I experience in Hunting, that those, who are debarred from that Recreation, are treated with Injustice. For what Reason, Sir, are the Pleasures of the Chace usually accorded to none but the Nobility ?

Prior. Man is incapable of living alone ; and Society, which is so necessary to his Welfare, would be entirely disconcerted, if all the Individuals, who compose it, were arm'd. I may add too, that Hunting is an improper Recreation for the lower Class of People, because it would infallibly divert their Attention from Trade, and the Cultivation of the Earth. It likewise comports as little with the Condition of Ecclesiasticks. Their Time ought to be devoted to the People, who have exempted them from the painful Solitudes of Life, by the Liberality of their Alms ; in order to facilitate their Exercise of Prayer, their Application to Study, and their Performance of the ministerial Functions, with which they are charged. The Chace has, therefore, been wisely reserved for those, who are to govern and defend the Community. Persons of this

Rank, may acquire, even in their Hours of Leisure, and amidst the noble Pleasures they are privileged to enjoy, the amiable Qualities of Fortitude and Patience, by which they ought to be distinguish'd from the rest of Mankind. The Chace habituates them to Activity and Attention; it inspires them with Prudence, and a formidable Intrepidity of Mind, which renders them incapable of shrinking from any Danger or Fatigue.

The END of the SECOND VOLUME.



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